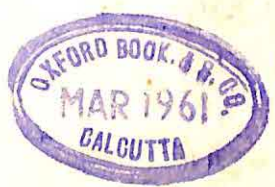


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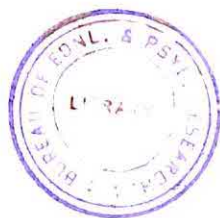
Educational Psychology

GEORGE G. THOMPSON
ERIC F. GARDNER
FRANCIS J. DI VESTA
All of Syracuse University

Educational Psychology



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PREFACE

THE FACTS AND PRINCIPLES of modern psychology are now applied to almost every dimension of human affairs. The potential applications to educational theory and practice are legion. Psychology has gradually become the most important of the recognized sciences that undergird the arts of educational guidance and classroom instruction.

Since almost every phase of psychology is potentially applicable to educational procedures, the problem of preparing a new and possibly more useful textbook in educational psychology begins with a thoughtful selection of those facts and principles judged to be most relevant to the teacher's work. In planning the present textbook we conferred several hours weekly over an entire year before any formal writing was attempted. Outlines were developed, exchanged and revised, and then reformulated until we felt that we had arrived at a plan for a truly functional interpretation of the most useful generalizations that modern psychology can offer the classroom teacher. We then spent two additional years writing and illustrating the final manuscript.

As a result of these endeavors, our textbook emerged in its present form composed of five parts. The First Part presents an overview of educational psychology and sets the stage for the remaining sections. The Second Part on evaluation and measurement is concerned with understanding the individual pupil as a prerequisite for effective teaching. The Third Part deals with

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the teacher's many roles and functions in guiding the learning processes of her pupils. The Fourth Part of our book is oriented toward adjustment of the pupil as learned behavior and the teacher's influence on the personality development of her pupils. The Fifth Part includes two chapters on the teacher's adjustments to the profession, the community, and to life in general.

We were determined to eliminate the nonfunctional topics that somehow get perpetuated in many textbooks and to select those research findings and principles that bear promise of being most useful to today's teacher. Systematic observations and measurement techniques are presented as valuable tools for the teacher in evaluating the achievements, interests, adjustment, and psychological growth potentials of her pupils. The traditional and the contemporary principles of learning are interwoven with numerous applications to classroom usage. Along with the principles of personal adjustment and individual striving, they have been organized within a framework of dynamic social relations and group functioning. A perspective of the teacher's growth is summarized by the presentation of two case histories of the development of two master teachers showing something of their conflicts, successes, and steady progress in the teaching profession.

The principles of psychological development have been handled in two ways. First, the content of the initial chapters is comprised largely of an overview of the implications for the classroom teacher of maturational and experiential influences on the pupil's behavior. Second, these influences have been functionally integrated into the chapters on evaluation, learning, and adjustment. This approach presents the principles of developmental psychology from a new perspective to the student who may have taken a prior course in human growth and development and as a stepping-off point for all students.

Although the many generalizations presented in this textbook are all based on sound research and widely accepted psychological theory, documentation has been kept to a minimum. We have presented sufficient references to original sources for the most ambitious of students, but have purposely avoided osten-

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tatious scholarship. For the convenience of both student and instructor we have, whenever possible, cited original reports which have been collected into books of readings. This policy was adopted to save wear-and-tear on irreplaceable journals and monographs, and to permit accessibility to scientific reports which are not commonly found in modest libraries.

Case studies and anecdotal materials have been generously used to elucidate psychological principles and to illustrate their application to educational practice. Many original drawings, half-tones, and colored charts enliven and supplement the textual content. They have been employed to illustrate concepts and principles that are difficult to communicate by the written word.

In our opinion a textbook is nothing more than a teaching aid which instructors select to supplement vital classroom and laboratory experiences. Teaching aids should be maximally flexible so that they promote rather than hinder the instructor's aims and goals. We have therefore divided our textbook into twenty-four relatively independent chapters. This permits the instructor greater freedom in organizing *his* course when he elects to use this textbook.

We have also prepared a *Student Workbook* as an additional teaching aid. The exercises and projects in the *Workbook* have been carefully co-ordinated with the contents of the textbook. If judged desirable, they can be used to promote a significant amount of independent scholarship. An *Instructor's Manual* is also available to contribute to the perennial problem of student evaluation, and to suggest additional audio-visual aids.

And now a word of thanks to our good friends who have contributed substantially to our efforts. Richard M. Elliott and Kenneth MacCorquodale gave us invaluable editorial assistance. C. Robert Pace and William H. Burton did much to buttress our confidence in the adequacy of our selection of those psychological principles most important to educational practice. Lucy Wing's bibliographical assistance greatly facilitated the final preparation of the manuscript. We are most grateful to Tom Yohe of Syracuse University who contributed all the original drawings. Finally we are deeply indebted to Chancellor William P. Tolley

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who has worked tirelessly over the years to provide the kind of academic home in which we could comfortably plan and complete our writing assignment.

Syracuse University

GEORGE G. THOMPSON

ERIC F. GARDNER

FRANCIS J. DI VESTA

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PART ONE

*An Overview of
the Growth, Learning,
and Adjustment
of Your Pupils*

PSYCHOLOGICAL RESEARCH has shown that an individual's understanding of a complex problem is greatly facilitated by a preliminary orientation or overview. This experience offers a plan, or model, for "fitting the pieces together." It is like a cognitive map that presents the principal relationships without the clutter of details. Once you "see" the guide lines in the integrated picture, you can anticipate a great many of the details and fill the gaps with reasonable hypotheses.

This first section of the book presents an overview of the many physical, psychological, and social forces that influence the growth and adjustment of your pupils. It is a "broad look" at human development, learning and adjustment in a complex society—an orientation to the psychologist's view of the educational process.

CHAPTER 1

Maturation: Pupils Develop from Within

*JOHN LOCKE, the great English philosopher, once wrote that the child's mind is like a clean slate upon which nature records his life experiences. Research over the last five decades has shown this conclusion to be far from true. The child is a growing and striving organism who selects and rejects environmental experiences in terms of his complex pattern of growth and state of maturity. As a matter of fact, the child can be deprived of much of what we might consider normal life experiences and still display appropriate behaviors at the same age as other children (5, 6). At certain periods of life the human smile appears whether or not the infant has ever seen others smile (21). The sounds of speech gradually emerge from what may appear to be the random vocal play of the infant. These and many other responses throughout the first twenty or so years of life seem to be released and patterned by the inner controls of growth.

The releasing and patterning functions of glandular, neurological, and other aspects of physical maturation are very impressive to the sensitive observer. One of our most distinguished child psychologists, Arnold Gesell of Yale University, has described such emerging patterns of human behavior in great detail (7, 8). It is easy, as his writings show, to slide into the belief that environmental influence is of minor significance dur-

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ing the developmental years of life. Fortunately we are protected from such a one-sided point of view by the findings of many research studies in widely differing cultural settings which show the profound influence of environmental experience (23, 24).

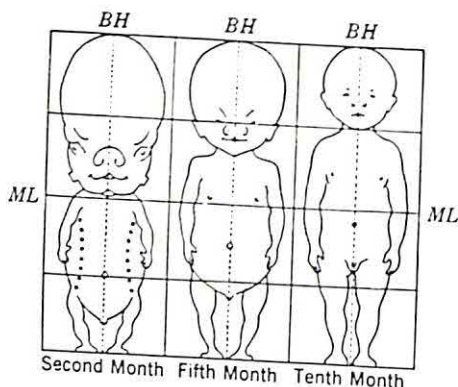


FIGURE 1-1. The complexly integrated pattern of physical growth is dramatically displayed in the progressive development of the human fetus. This symmetry-and-patterning of biological and psychological growth is reflected in Shakespeare's observation that "There is a divinity that shapes our ends." (From J. H. Hess. *Premature and congenitally diseased infants*. Lea & Febiger, 1922. With permission.)

The theory most widely accepted in modern developmental psychology assumes a dynamic *interaction* between maturation and learning (1). The teacher of today should attempt to consider both maturational level and environmental forces in her appraisal of important next steps for promoting optimal future growth of *individual* pupils.

When inner growth processes fail to mature

In most children physical and psychological growth takes place in such a familiar way as to go almost unnoticed. Transition periods between childhood, adolescence, and adulthood are blends of the mature and the immature, and like the seasons it is difficult to know when one ceases and another begins. However, let something go awry in nature's plan and the importance of the inner processes of maturation are revealed in a dramatic fashion.

For example, the relationship between normal hormone

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balance, glandular functioning, and sexual maturity is strikingly illustrated in the case of *pubertas praecox*. It is difficult to believe that such sexually mature individuals are only children in years and in the rest of their physical and psychological development.

Or consider the case of the individual with a congenital deficiency in thyroid functioning. Cretins are malformed in physique and permanently retarded in intellectual growth. All of this because of only one deficiency in nature's intricate balance of maturing functions.

Fortunately such extreme deviations in patterns of physical growth are not common. However, less severe but still very important differences in maturing are also found in what we consider the "normal range" of human growth.

"Normal" children grow toward maturity at different rates

The neurological structures that mediate man's higher mental processes develop at different rates in the pupils of an average classroom. It can also be easily seen that these same pupils are growing toward different levels of maturity. Pupils differ in both rate of growth and *pattern* of psychological development.

Although there seems to be a positive correlation between the growth functions of a given child (16), there are many exceptions. It is not unusual for a preschool-aged child to be extremely retarded in language expression and later blossom into a rich period of language usage (19). This same unevenness of growth has also been observed in other phases of mental development, as illustrated in Figure 1-2. These are exceptional deviations. Otherwise the teacher's task of appraising her pupils would be an impossible one.

Fortunately in most instances the teacher can predict a pupil's growth during the school year with reasonable accuracy. The pupil who begins the year with an intelligence quotient of 95 is very likely to end the school year with an IQ that falls within the average range of 90 to 110. This same degree of constancy in psychological growth seems to prevail in such other areas as academic achievements, motor skills, emotional maturity, personal adjustment, and in modes of social adjustment and interaction.

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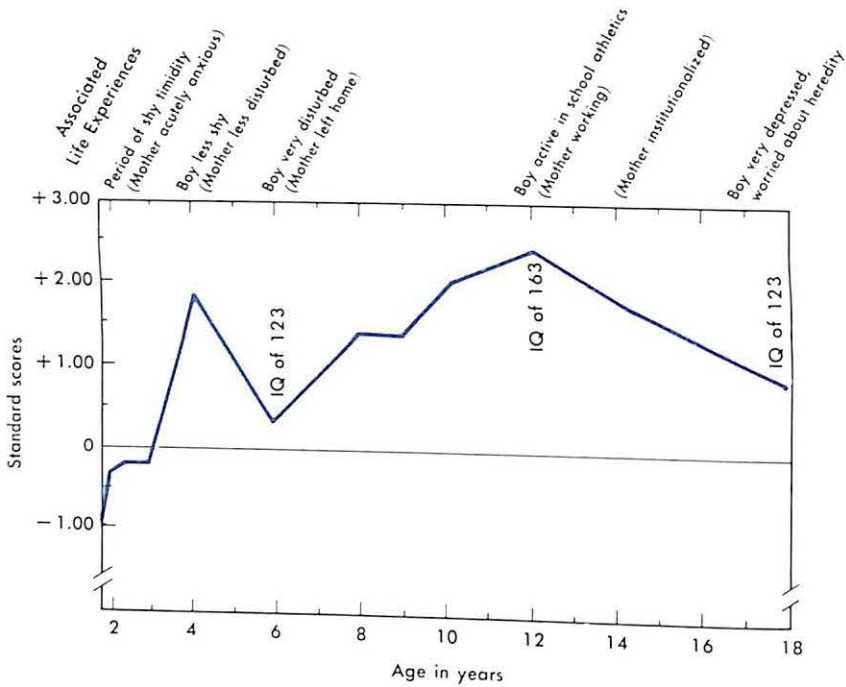


FIGURE 1-2. Variations in the intellectual performance of one individual and associated life experiences. The investigators merely *suggest* that there may be a causal relationship between mental growth and the observed conditions. (Adapted from M. P. Honzik, J. W. Macfarlane, and L. Allen (12). An abridged presentation of the mental-test performance of case 802—boy. *J. of exp. Educ.*, 1948. P. 320. With permission.)

The alert teacher can make a fairly accurate appraisal of the trends in a given pupil's development by studying information in the child's personnel folder and by administering some of the variety of tests described in later chapters. By such procedures she can identify pupils who are going to need careful guidance in certain areas of growth and adjustment. She can pick out those boys and girls who have the potentialities for more impressive records of achievement, and then try to make out the reasons why they have failed to do work commensurate with their abilities. She can survey the talents and deficiencies of all the pupils in her classroom and thereby make better judgments about how to modify the curriculum for their best

MATURATION

interests, how to establish socially harmonious and academically effective subgroupings of pupils working on mutually interesting projects, and so on. The teacher of older youth will also try to help her pupils plan for the types of life work most consistent with their probable talents and interests at maturity. In all of these educational efforts, the teacher must be continuously sensitive to long-term growth trends, occasional reversals in such trends, and most probable behavioral assets of different pupils at maturity when further development ceases.

The foregoing is not meant to underplay or deny the influence that environmental experiences can have on psychological growth and behavior. To be sure, the intellectually dull child can learn many useful things, and it is the teacher's responsibility to help him as much as possible. However, as teachers we often become so absorbed in the functions and challenges of education that we forget the very definite effects of a maturing organism on learning processes. The intellectually slow-growing pupil is moving inexorably toward an intellectual handicap at maturity. He will never "catch up." Perhaps we can teach him to read and help him acquire other useful skills, but we cannot reverse the trend of his mental growth or extend the years of his development.

It is the purpose of this chapter to emphasize the limits imposed on learning by the natural and as yet unchangeable growth processes that take place *within* the pupil. Some of these processes of maturation appear to be little influenced by environmental conditions within the normal range of modern cultures. Maturation, or development from within, is a natural phenomenon which cannot be altered in any substantial way by normal life experiences. Rather we must understand and appreciate its functioning in each pupil, be acceptant of whatever limitations he may have, and take full advantage of his potentialities for educational progress in the broadest sense of this word.

Similarities and differences in pupil growth and development

Although there are vast individual differences in the rates at which pupils mature, many of these differences are disregarded in the more formal aspects of education. All of the five-year-old boys

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and girls are customarily placed in a common kindergarten classroom even though they are extremely different in intellectual status, motor skills, emotional and social maturity, personal adjustment, and educational "readiness."

How can the teacher hope to guide the learning experiences of pupils who are at such diverse points of their psychological growth? This question plagues every reflective teacher because it permits no simple or completely satisfactory answer. And the problem becomes increasingly troublesome for the teacher of older pupils where maturational limitations and personal experiences have increased the diversity of pupil skills and learning potentials. As shown in Figure 1-3, the absolute differences in mental age of a typical group of boys and girls increase as they grow older.

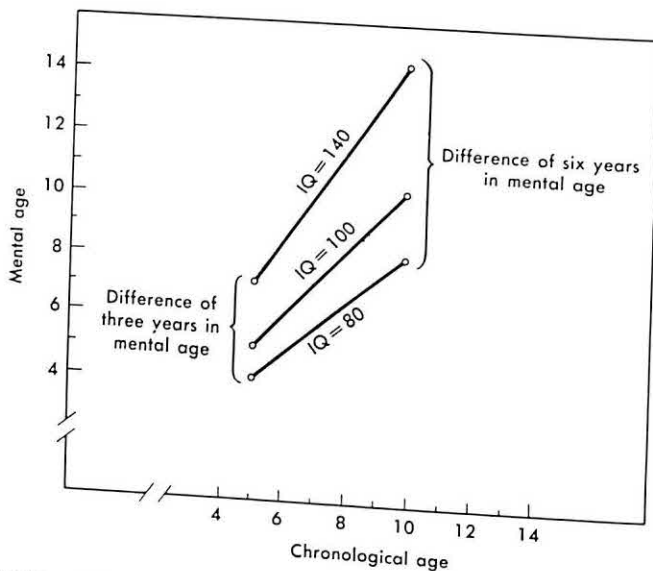


FIGURE 1-3. Mental growth functions of three pupils with IQ's of 80, 100, and 140. Note that the absolute differences in the mental ages of these pupils are increasing with age. In kindergarten their mental ages are 4, 5, and 7 years, whereas in the fifth grade their mental ages are 8, 10, and 14 years.

The typical defense of this universal educational practice of grouping boys and girls according to their chronological ages derives from our conception of the "average" child. It has been

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found convenient and economical to place one teacher in charge of the learning of 20 to 40 pupils. This established procedure has been justified on a number of bases, some of which are related to the principles of human growth and adjustment.

It is true that a classroom of five-year-olds have many common interests, some comparable abilities, and many similar life experiences. If the teacher is guided by her conception of the "average" child in planning a particular learning experience, it is very probable that the majority of pupils will show interest and will profit from the project. However, she will have the problem of a small number of pupils whose "readiness" to learn does not permit adequate comprehension or whose intellectual skills prevent acceptable levels of performance. And there will also be a small number of pupils who are merely repeating something they already know because of their precocious development and incidental life experiences. As the pupils increase in age the numbers of pupils who deviate significantly from the teacher's estimate of the class "average" becomes much larger. The need for individualizing instruction according to the needs, interests, and competencies of each pupil becomes increasingly apparent.

The many differences in rate and pattern of pupil growth eventually force the schools to place boys and girls into many instructional groupings. The diverse interests and skills of male and female pupils makes sex a reasonable basis for groupings early in the educational sequence. Motor and artistic skills soon form the basis for groupings in physical education and in fine-arts activities. The average junior- and senior-high-school curricula recognize intellectual interests as a legitimate basis for grouping, and permit pupils to elect some courses to the exclusion of others. Pupils are also grouped for various kinds of remedial work: speech, reading, arithmetic, and so on. All of these groupings plus the increasing popularity of "special" classes are a recognition that each pupil has a distinctive pattern of psychological growth. It seems probable that special groupings of pupils for instructional purposes will increase in scope and popularity, and that each pupil will be a member of many different groups during any one school year. These groupings will

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be established as early as kindergarten year, will increase in number with grade progression, and will become an accepted and logical development of our educational program. No identifiable stigma will be associated with the pupil's belonging to some special group, for he will belong to many such groupings. Such procedures, if they materialize, will do much to lighten the teacher's load and augment her feelings of accomplishment, and they will surely provide more opportunities for boys and girls to profit from their educational experiences.

Each pupil has a distinct pattern of growth

The psychological growth of a given pupil is usually uneven. He may be accelerated in certain aspects of development, average in some and retarded in still others. His state of maturation at any given point in time is a complex pattern of abilities, skills, interests, and states of "readiness" for further achievements. This patterning is illustrated in the profile shown in Figure 1-4. The majority of pupils have an irregular pattern of psychological and behavioral development.

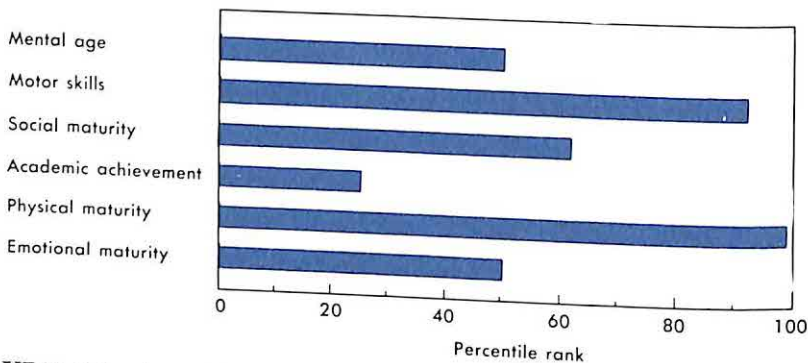


FIGURE 1-4. A profile of the maturity of one pupil in several areas of psychological growth. Note that his mental age is at the 50th percentile which indicates that he is average in this aspect of development. Also note that he is highly superior in motor development with a percentile rank of 92.

The fairly uneven growth patterns of boys and girls make the teacher's task of pupil appraisal a difficult one. She cannot assume that a pupil who is above average in mental growth is also

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above average in motor skills, because there is very little correlation between these two types of growth (17). The pupil who is poorest in handwriting may be the best in reading, arithmetic, or some other subject matter achievement, since handwriting correlates to only a negligible degree with other types of academic growth (14). Pupils whose competence in arithmetic is below average may be superior in the language arts—this being especially characteristic of girls (15).

The foregoing is not meant to imply that there are no positive correlations between different types of psychological growth. Rather the relationships are very modest in size. The intellectually gifted child *tends* to be above average in all growth functions. However, there are notable exceptions to this rule. Children with IQ's above 180 (who appear not over 15 to 20 times in a million births) are sometimes grossly retarded in the emotional and social aspects of development, although this is the infrequent exception rather than the rule.

Considering the complexity of growth patterns represented in a typical classroom, it would be most helpful if the teacher could prepare a comprehensive growth profile for each of her pupils. Such profiles would need to be reviewed, and revised if necessary, on an annual basis, for the pattern of pupil growth is likely to change over the school years. Such changes are often accelerated during the adolescent years when dramatically sudden shifts may occur in the social and emotional components of psychological development. There are also many other important changes in pupil rankings during adolescence because children enter this period of life at different ages (as shown graphically in Figure 1-5). The child suddenly becomes more mature in physical appearance and acquires a number of new interests. Parents, teachers, and peers regard the adolescent boy or girl differently because of these pervasive changes. The adolescent's conception of himself (or herself) and his proper social roles are altered. These conditions make the adolescent years a time when the teacher must be especially alert to rearrangements in the pupil's pattern of psychological growth.

Although psychologists have constructed a wide array of tests

AN OVERVIEW OF GROWTH

WHEN BOYS AND GIRLS MATURE

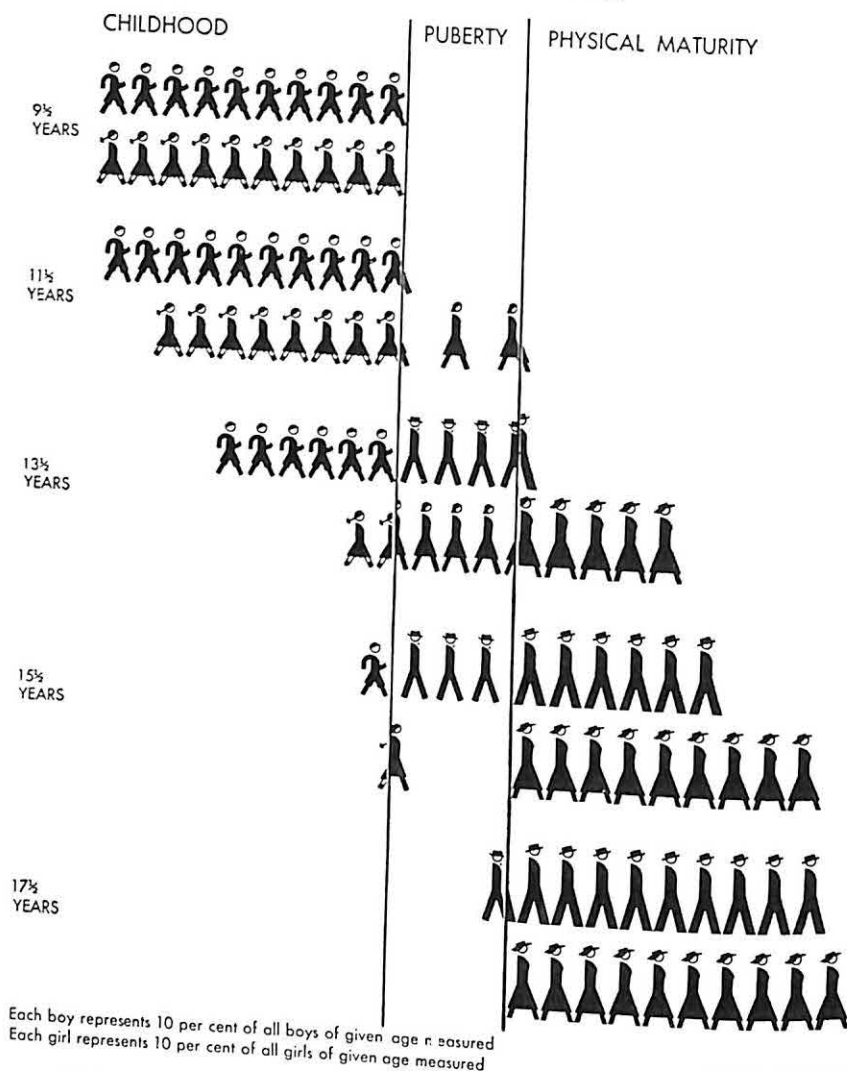


FIGURE 1-5. Variation in ages at which children mature sexually. Note especially the earlier maturation of girls. (From Alice V. Keliher. *Life and growth*. Appleton-Century-Crofts, Inc., 1938. With permission.)

and scales to help the teacher appraise the many facets of pupil growth and adjustment, there are still important gaps which the teacher must bridge by less formal procedures. Direct observation, interviews, anecdotal records, and other case study methods are required if the teacher hopes to understand some of the more in-

MATURATION

tricate dynamics of pupil growth and adjustment. Many of the differences among pupils in rates and levels of development are extremely subtle. It is easy to accept a conventional and often erroneous interpretation of pupil behavior. For example, lack of interest in a classroom experience may be attributed to childish stubbornness or boredom. A few weeks later when his level of maturity is appropriate for the experience, the same pupil may become an enthusiastic participant in this identical activity.

Since success in most of the learning exercises presented to pupils is dependent on *many* different psychological functions, lack of maturity in any one of these processes will prevent pupil progress. As an example of this intricate interaction of many psychological functions, which are dependent on different dimensions of maturity, let us consider the case of Henry B. who had difficulty learning to read.

Henry was an attractive boy slightly above average in physical development. His performance on the Stanford-Binet Intelligence Scale, administered to him during the kindergarten year, showed him to be of average intelligence (an IQ of 104). He seemed to be slightly below average in emotional maturity as evidenced by his difficulty in giving up the security of his mother and home environment and his dependence on the kindergarten teacher for signs of approval. He tended to be an observer rather than a participant during informal play periods, although he seemed pleased to play with his classmates when invited. His personnel folder showed that he was the only child of indulgent parents, both in their early forties at the time of Henry's birth. Mrs. B. indicated that Henry had suffered many illnesses during his preschool period and that they had not permitted him to engage very much in informal play with neighborhood children. Despite these deprivations, Henry's motor development appears to be somewhat above average. At the end of the kindergarten year his teacher described him as "apprehensive and socially shy, but of average intellectual ability."

When Henry entered first grade his teacher noted his continuing tendency to become anxious and tense in new situations and during informal play periods. When formal reading instruction was begun in the second half of the year, Henry seemed interested but easily distracted by the performances of other pupils. He appeared to learn new words easily but was unable to remember them the next

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day. His reading vocabulary fell behind and he became listless and apathetic during reading instruction. He became even more socially withdrawn. Upon the teacher's request Henry was examined and observed by the school psychologist. The latter interviewed Henry's parents and recommended a program of action designed toward lessening Henry's feelings of inadequacy in social situations involving other children. That summer Henry participated in a special play group supervised by youth leaders from the local Y.M.C.A. He learned to swim, play many new games, and generally enjoy himself during informal play periods. His apprehensive and anxious responses declined in frequency as he matured socially. His parents reported, "Henry seems more like a *real* boy."

The next year with the aid of a tutor Henry rapidly made up his deficit in reading skill. He joined play groups spontaneously and seemed to be a genuinely happy and relaxed second-grade boy.

Needless to say, from our limited information about Henry B. we cannot identify the exact locus of his immaturity. We can only infer that his "readiness" for reading (a complex function of maturation and experience) was deficient. And his inability to learn to read was not his only important handicap. It seems probable that the school psychologist anticipated that Henry was "ready" to expand his social skills and acquire new securities in the big world outside his home. Was social and emotional immaturity the stumbling block in his efforts to master the reading skill? Perhaps. Certainly we know that the anxiety and distraction of failure in one area of personal adjustment can interfere with learning and adjustment in other spheres. However, it is also possible that sheer maturation over a stretch of time permitted Henry to profit from both types of educational experience, and that social adjustment and reading skill were not causally related in his case. In any event, the psychologist's recommendations might have been very different for another pupil with similar difficulties but a different pattern of maturation and experiences.

Some general principles of psychological growth

On the basis of available research findings we can formulate some fairly general principles of psychological growth. These

This infant who has been severely restricted in motor response by being bound to a swaddling board walks at the same age as other infants. Some behaviors emerge from "within" the neuromuscular maturity of the organism and require no special opportunities for practice.



principles can serve as a helpful though often indistinct guide as we attempt to understand and encourage the development of pupils.

Some behavior patterns appear spontaneously when the human organism has reached a certain level of maturity. These behaviors appear under all known cultural conditions and seem to be independent of special training or environmental restrictions. The infant who is restricted in motor response by being bound to the swaddling board walks just as soon as other infants (6). The congenitally deaf child who has never heard the human voice produces the basic phonemes of speech in due course. These are among the more obvious behaviors that appear spontaneously when the individual reaches a given level of inner maturity. Psychologists have reason to believe that there are many other responses that emerge "from within" throughout the developmental period: varieties of emotional response like sympathy and anxiety, dreams and fantasy behavior, social responsiveness, and so on. Many of our educational frustrations and failures arise

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from attempts to modify forms of behavior before they have a firm maturational base.

There is a complex interaction between maturation and experience that results in "readiness" for learning and adjustment. The child and the adolescent are responding to both internal and external environmental conditions. Convincing research evidence is now available to demonstrate that some types of behavior can be permanently depressed if the organism is deprived of normal interaction with the external environment. For example, Riesen (18) and Senden (20) have shown that animals reared in darkness or children whose congenital cataracts are not removed until adulthood suffer irreparable damage to some of their perceptual skills. They have extreme difficulty in seeing and interpreting events in the visual world.

There is also the startling and dramatic evidence that "infants" deprived of their mothers or stable mother substitutes during the first year of life suffer depression, apathy, and even loss of physical health (2, 22). From these research studies and others investigating very different aspects of psychological growth and adjustments it can be concluded that children and adolescents *need* certain types of experience with the external environment in order to enjoy healthy and normal maturation.

The interaction of maturation and experience is a two-way process. Boys and girls are not passively responding to variations in the external world. They *actively seek* certain types of environmental experience when inner maturity has reached a certain state of readiness. The intellectually precocious child demands opportunities for reading and typically learns to read "on his own" before entering kindergarten. Almost all of the children with IQ's above 180 who were observed by Leta Stetter Hollingworth



Infants that are deprived of "mothering" during the latter half of the first year of life become listless and depressed. Healthy growth requires a beneficent sociopsychological environment as well as favorable physical conditions. (Courtesy of René A. Spitz, M.D.)

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were reading fluently by the end of the fourth year of life (11). According to her reports these gifted boys and girls learned to read by asking their parents occasional questions about printed words. We also have the recent reports by H. F. Harlow on the demands of laboratory chimpanzees for "useless" types of environmental experience (10). Infant chimps spend long periods of time pulling strings and manipulating blocks that produce no tangible rewards. As a matter of fact they attempt to bite the experimenter if he restrains them from this apparently "pointless" activity. When animals, children, or adolescents are "ready" for a given type of interaction with the external environment, they display interest, persistence, and enthusiasm. These conditions are most favorable for learning and adjustment.

Each pupil has a distinct pattern of psychological growth. We have already discussed this principle in some detail. Boys and girls grow to physical maturity in different ways. In pre-adolescence girls are superior to boys in physical stature and strength because they are approaching maturity at a more rapid rate. Boys change places with each other in height because their physical growth spurts occur at different chronological ages. Boys and girls become interested in heterosexual activities at different ages because they enter adolescence at different times in their patterns of maturing.

The foregoing are obvious examples of the patterning of *physical* growth. There is also ample evidence that each pupil has his own pattern of psychological growth. Although this individual patterning makes the teacher's task of pupil appraisal a difficult one, there is no alternative to attempting to understand the "readiness" of each pupil for all educational experiences. This is a "must" for the effective teacher in modern education.

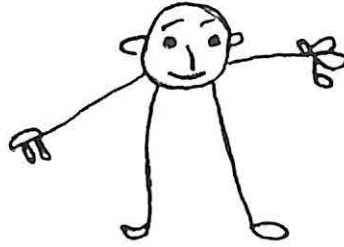
Maturation-and-experience determines the pupil's perception of objects and events in his environment. The average two-year-old child cannot perceive the differences in letter forms which are necessary for reading. Even much older children still have occasional difficulty discriminating similar letter forms like p, q, b, and d (3). Ability to identify and discriminate is a continuous growth process and one that is essential to many

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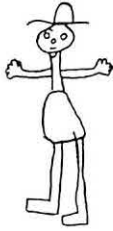
of our educational efforts. The child's growing awareness of variations in the external world is well shown in his perception of the human body. As may be seen in Figure 1-6, the child gradually perceives arms, their proper location on the body trunk, fingers, the correct number of fingers, and so on.



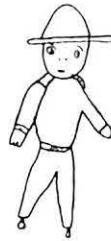
Mental age of 4 years



Mental age of 5½ years



Mental age of 7½ years



Mental age of 9 years

FIGURE 1-6. The growing child gradually discriminates differences in his visual world. These emerging perceptual discriminations are reflected in his drawings of the human body, as shown in the above drawings by children of different levels of mental maturity. (From F. L. Goodenough, *Measurement of intelligence by drawings*. World Book Co., 1926. With permission.)

Since much of the school curriculum is related to symbol discriminations, sign relationships, and concept manipulations according to conventional rules, it is imperative that the pupil's maturation-and-experience be adequate for the assigned tasks. We have frequently heard the bewildered ninth-grade pupil complain, "algebra is all Greek to me." This simply means that the pupil is not "ready" for this intellectual experience. And it is, of course, true that some pupils never reach the level of psy-

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chological maturity that is necessary for an understanding of such abstract procedures.

There are additional principles of psychological growth that are frequently noted in textbooks on developmental psychology. For example, "growth is a continuous process," "growth is cephalo-caudal and proximo-distal in direction," "there are periods of acceleration and deceleration in growth processes," and so on. These are the more obvious features of psychological development, so we omit their discussion in order to conserve space for presenting the essentials of psychology judged most important to the teacher-in-training.¹

✦ A long view of the pupil's psychological growth

The effective teacher must strive not only to understand and appreciate each pupil as he is today but also to "look ahead" toward his future growth and adjustment. This is not an easy assignment, nor is it one that can be attempted in any detailed way. Rather, the teacher should "back off" occasionally so that she can get a broader perspective of a pupil's total development. What are going to be the satisfactions and frustrations of this individual pupil over the total span of his development? The teacher sometimes becomes so overwhelmed by the complexities of a pupil's behavior from day to day that she forgets that psychological growth is a continuous process sustained over many years. It is easy to forget that the teacher is involved in only a small segment of the pupil's total development in a single school year.

What sorts of things should a teacher consider in her attempts to appraise a pupil's total development? The modern teacher has the responsibility of reviewing each pupil's accomplishments, his strengths, weaknesses, major interests, evidenced potentialities for further growth, and general satisfaction in living. The teacher should also attempt to anticipate the dynamics of the pupil's

¹ We anticipate that the majority of teachers-in-training will have at some time during their academic and professional training a course devoted exclusively to the observation and study of children and/or adolescents. Since we are aware that this may not always be the case we have reviewed the major developmental trends in this brief orientation to psychological growth and adjustment.

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future growth, to predict his most probable areas of inadequacy and frustration in later grades and do what she can to prepare him for them, and to look beyond formal schooling in an effort to foresee the pupil's adjustment status in adult life. These are admittedly very abstract and poorly defined directives. However, the goals themselves are clear-cut and important. When properly appreciated they can have a positive influence on teacher attitudes and behavior. The tenth-grade boy who is almost certainly headed for an apprenticeship in a local skilled trade may not have enough need for a knowledge of Latin II in later life to merit teacher apprehension about his lack of progress in this subject. This is only an example of some of the outcomes of the "long view" of pupil growth and adjustment. The modern teacher is more than a tutor of academic knowledge and skills. Her understanding and appreciation of a pupil's total life adjustment, with which she is entrusted in the modern school, will be enhanced by a broad perspective of the child and the community.

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K. C. F.

*Environmental Influences:
Pupils Also Develop
Through Experience*

AS DISCUSSED PREVIOUSLY in Chapter 1, the child and adolescent youth require certain types of environmental interactions for healthy growth. Maturation sets the stage, but environmental conditions do much to determine the scope and quality of the dramatic sequence of development. The vital role of adequate environmental support is widely recognized in physical growth. For example, it is generally known that children with perfectly normal thyroid glands will develop goiter if their intake of iodine salts falls below a minimum level. Or that sustained pressure applied to growing tissue will produce deformation—as seen in the elongated heads and lips of certain natives in Central Africa.

The equally important effects of environmental stimulation on psychological development are generally acknowledged but not so easily observed by the average man-in-the-street. For example, the untrained observer may fail to see the causal relationship between parental neglect or rejection and an adolescent's delinquency, or the severe depression of an infant over the loss of his mother during the latter half of the first year of life. Furthermore the untutored layman is likely to focus on the physically obvious. He finds it hard to believe that there can be any possible relationship between the conditions of personal adjustment and learning to read or spell.



Environmental conditions affect physical and psychological growth. The developing organism can be systematically influenced in "subtle" as well as in the more "obvious" way illustrated in these pictures. (Courtesy of the American Museum of Natural History, New York.)

It is not uncommon to hear some intelligent and well-educated adult offer the opinion that "Johnny has everything that any boy could possibly want—a fine home in the best part of the community, attractive clothing, and just *everything* that any boy could possibly desire." Such casual observers seem genuinely bewildered when Johnny resorts to petty thievery. It seems illogical, because as they say, "Johnny's parents would give him anything he needed, or wanted." It is of course clear to the psychologist that boys like Johnny are not getting everything they need by way of environmental support. Many of their less obvious needs, which escape the notice of the average adult, relate to the quality and intimacy of interactions with significant persons in the social environment. The latter needs for environmental stimulation are subtle, and frequently overlooked or underestimated in their significance for healthy personality development.

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Psychological growth under widely different social conditions

Many of the pupil's behavior tendencies are well crystallized by the time he enters kindergarten. The illustrious physician and psychologist, Sigmund Freud, did more than any other scientist to focus our attention upon the importance of environmental conditions during the child's infancy and preschool years. It is during this period of growth that the child is learning basic ways of relating himself to other people. He is learning to deflect his primitive impulses for immediate pleasures into activities that are socially accepted by parents and other important personages in the broader social environment. What he learns is highly dependent on parental values and child-rearing practices. This is shown in an interesting way by the following comparison of behavior tendencies and childrearing practices in two very different cultures, the Balinese and Sioux Indian.¹

Bali, an island near Java, contains about a million people whose old, stable culture has been studied extensively. One outstanding characteristic of Balinese adults and older children is their calm adherence to tradition, and their gentle, relaxed, and unaggressive social relationships. Such behavior defines a pattern of motivation quite different from our own, and is perhaps definable as a low intensity of motives for mastery, pre-eminence, or competitiveness. Numerous observations suggest the origin of this trait. In Bali, infants and very small children are traditionally teased by their parents and by other members of the family, and are stimulated to outbursts of love or anger. As soon as the youngster is thoroughly worked up emotionally, the adults ignore him. They respond neither to his embraces nor to his tantrums. The result seems to be a gradual extinction of the child's strong emotional responses to other people, since they are unresponsive to him. If a little child wanders away, his parents do not chase him in an emotional uproar, but any older child or adult who finds him leads him calmly back.

¹ These observations of child-rearing practices are based on the following reports: G. Bateson, Cultural determinants of personality. In J. McV. Hunt (Ed.) *Personality and the behavior disorders*. New York: Ronald Press, 1944. J. Belo, The Balinese temper. *Charact. & Pers.*, 1935, 4, 120-126. E. H. Erikson, Observations on Sioux education. *J. Psychol.*, 1939, 7, 101-156. M. Mead, Social change and cultural surrogates. *J. educ. Sociol.*, 1940, 14, 92-110. M. Mead, Research on primitive children. In L. Carmichael (Ed.) *Manual of child psychology*. (2nd ed.) New York: Wiley, 1954. The present synthesis of these observations is taken from L. F. Shaffer and E. J. Shoben, Jr. *The psychology of adjustment*. Boston: Houghton Mifflin Co., 1956. Pp. 81-82. With permission of author and publisher.

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Many other learnings contribute to the learning of the Balinese character. In Bali, it is good etiquette to reach for things only with the right hand. If an infant carried by his mother reaches with the left, the mother pulls back the offending hand gently and extends his right. This is done calmly, monotonously and repeatedly, with no word of scolding. When a girl learns the classic Balinese dances, the instructor sits or stands behind her and gently pulls and pushes her limbs into the required positions. All of these learning experiences, and many others of the same pattern, teach the Balinese child to accept passively the demands of other people and of tradition. Since he learns to conform without being raged at, and without his own early rages being acknowledged, he acquires the easy and unaggressive compliance which marks his culture.

One characteristic of the Sioux Indians of the American plains may be mentioned because of its striking contrast to the Balinese. Like the child of Bali, the Sioux baby is breast fed whenever he demands it, and at least intermittent nursing is often continued until he is three or more years old. Consequently, the Sioux infant rarely cries from helpless need; his parents believe that such crying would make him fearful and a poor hunter. His anger responses are quite another matter. When an older infant is frustrated and has a tantrum, the mother is amused and pleased, and eggs him on to increase the rage. The Sioux believe that such outbursts of anger make the child strong and brave, hence they are to be encouraged. As adults the Sioux are aggressive, very hostile to outsiders, and somewhat quarrelsome among themselves. Their extreme cruelty was notable in the earlier period when they roamed the plains freely. There is certainly a connection between the childhood training of emotion and the adult pattern of motivation. No single aspect of training forms adult character unaided, of course. The one influence cited as an illustration is symptomatic of an attitude of the culture, which gives rise to numerous other training experiences whose cumulative effect is sufficient to produce the traits seen in the adult Sioux.

The foregoing are not isolated instances. The psychological and anthropological literature is full of such observations relating the character and personality growth of children to parent attitudes and practices. For example, Kardiner (8) has shown that maternal neglect and an ineffective system of substitute parents cripples the personality development of the Alorese child. Their children grow up with no conception of achievement, and a limited appre-

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ciation of character traits like honesty, courage, and responsibility. Their chief positive values are associated with food and power over others. "They tolerate the conditions and function within them; but they are not effectual as human beings or as a society."

It has even been shown that such early child-rearing procedures as manner and duration of nursing and toilet-training practices are related to the grown child's attitudes toward the causes and cures of disease and illness (16). Adults in those societies where the nursing period is brief or abruptly terminated tend to view disease as entering the body through the mouth. On the other hand adults from societies where the nursing period extends over a long interval and is gradually abandoned perceive oral activities as curative agents for illness. This research and its many findings make a convincing case for the very early influence of environmental conditions on children's behavior tendencies and personality growth.

Is it little wonder that the pupils of an average classroom are so very different in their fundamental approaches to life? They are maturing "from within" according to their own genetically determined patterns of growth and they have widely different backgrounds of socialization pressures and experience.

Differences in the social backgrounds of American children

Pupils in the American schools come from home and neighborhood environments that are most heterogeneous. Our country has been the "melting pot" for people from all parts of the world seeking freedom and opportunities. Each person brought with him values and aspirations which he later transmitted to his children. Some were docile and accepting, some were suspicious and hostile, some were bewildered and lost. All were influenced by the new culture, but vestiges of the social and cultural past persisted. The social effects of our past can be easily detected in an average community. There are wide differences in child rearing along broad social cleavages like religion, race, and socioeconomic status. The modern teacher must attempt to understand the pupil's past in order to appreciate his present style of living.



Each pupil has a unique background of experience that influences his present behavior and learning potentials. Although the teacher cannot hope to understand *each* of her pupils in any exhaustive way, she can profitably infer differences along broad cultural lines as a first guess. She will then, of course, attempt to interpret *individual* behavior as time and other resources permit. (Board of Education, City of New York.)

Allison Davis and his associates of the University of Chicago (4, 5), have collected much evidence that pupils from lower socioeconomic status (fathers who are day laborers and provide little economic or social stability) respond very differently than pupils from the middle socioeconomic status (fathers who are in the "white-collar" class, own their own homes, and so forth). Pupils from the lower class do not always perceive education as an opportunity for bettering their position in life. Their aspirations and values may be very different from their teachers. They tend, among other things, to be less ambitious, more tolerant of dirt and "disorder" in their daily routines, and less anxious about social disapproval. The research evidence suggests that the teacher cannot expect pupils from lower-class homes to respond in the same ways to the rewards and punishments that may have been effective in her own personal experience or with pupils from middle-class homes.

What *can* the teacher do in her efforts to educate the lower-class child? Research findings are not available to supply a

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detailed answer to the important question. However, it is important for the teacher to *attempt* to understand the adjustment difficulties of such pupils and to appreciate the integrity of their styles of living. The majority of lower-class pupils have identified with their affectionate and accepting parents to the extent that they have adopted similar personal habits and philosophies of the "good life." The teacher must accept this psychological fact as a starting point if she expects to be an effective influence on pupil



FIGURE 2-1. Teachers who come from middle-class homes may have difficulties in understanding the values and adjustment patterns of pupils from lower-class homes.

growth. On the basis of his extensive observations O. H. Mowrer has concluded that some kinds of learning require that the student feel accepted and cherished by his teacher (11). This mutual attraction with affectionate interest seems to be a special requirement for effective teaching of the imitative or exemplary type—important even in the art of teaching birds to talk!

The point of view just discussed on differences in the socioeconomic backgrounds of pupils could be elaborated in similar ways for other broad social differences among the boys and girls

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of an average classroom. The pupil who has grown up with an epithet of "nigger," "kike," or "wop" ringing in his ears will not perceive the teacher or the school in the same way as other pupils. The teacher must be sensitive to the anxieties, apprehensions, and resentments of such pupils. Failures to learn or to conform to school routines are convenient and fairly common responses by which the socially oppressed pupil shows his counter-aggression. By her behavior the teacher can either reinforce such negative regards in her pupils or lead them to a better understanding of themselves and others. In order to do this the teacher may need to take a long searching look at her own social perceptions and hidden prejudices.

Environmental conditions differ in importance

This is an important generalization of such simplicity that it is often overlooked. Let us consider an instance where an unwary observer arrives at the incorrect conclusion by failing to keep in mind this sweeping truth. Miss Brown, a third-grade teacher, has been missing a number of articles from her desk over a period of several weeks. She has been unable to apprehend the person or persons responsible for her losses. She suspects Mary Davis. Why? For no reason other than that Mary is always poorly dressed, is often dirty and unkempt, uses poor grammar, is pale and undernourished, and so on. The real offender is later discovered to be Sally Carson who is always neat and clean, speaks in the manner of a "lady," and is consistently moralistic about the misbehaviors of her classmates. In this instance the teacher inferred an erroneous causal relationship between dishonesty and the effects of a physically impoverished home. What she did not know was that Mary is loved and appreciated by every member of her large family, while Sally gets little affection or attention from her mother and father who are preoccupied with their professions. A search through Sally's personnel folder shows that this is not the first time she has taken "tokens of love" as she needs them.

The major lesson to be derived from the foregoing example is that boys and girls are responding to many different environmental conditions. Physical impoverishment may produce mal-



A



Although "good things tend to go together," one cannot always conclude that the pupil who comes from "Environment A" has a better chance for success and happiness than the pupil from "Environment B."



B



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nutrition but not necessarily psychological adjustment problems. Good food, a fine house, luxuries, and all of the "opportunities" for acquiring the social skills and graces may not be enough to prevent maladjustment. It is easy for a teacher to be extolling the virtues of Abraham Lincoln who came from humble origins and at the same time be unconsciously disdainful of one of her own pupils with a similar social background. It is not always easy to look beyond the physically obvious features of an environment, but it is imperative if one expects to understand the complexities of pupil growth and adjustment.

The foregoing discussion should not be interpreted as suggesting an absence of relationship between physical and psychological environments, but rather that the correlation is low in magnitude. Research evidence shows that delinquency, crime, and insanity incidents are more common in physically deteriorating neighborhoods (13, 14). It also shows, however, that many well-adjusted and successful persons grow up under conditions of extreme physical poverty. A world-famous study of juvenile delinquents has demonstrated that youthful offenders very frequently have brothers and sisters who are well adjusted, ambitious, and in every way acceptably socialized to the demands of the world (6). Such research findings underscore the multiple causation of behavior and the "relativity" of environmental conditions.

Brothers and sisters are not reared in the "same" environment

The last observation that the "same" home environment may produce both a juvenile delinquent and a solidly good citizen should not come as a surprise. For, indeed, similar evidence is abundant in all realms of growth. Some plants grow well in soils which fail to sustain life in others. Living creatures also have their own individual needs for environmental support. And man has his own peculiar needs for psychological sustenance. The old saying "One man's meat is another man's poison" is especially appropriate here. For example, the genetically transmitted characteristics of brothers and sisters may be vastly different. Their inborn structures may lead to personality features that make different demands on the environment and which evoke

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very different responses from other people. Consider the contrasting needs of two brothers, one of whom is temperamentally quiet and shy and the other aggressive and hyperactive. Now consider these brothers in a home where both parents are socially outgoing and ambitious for social status and acceptance. There seems little doubt that the brothers would be perceived and responded to differently in this instance. Therefore, even though they are reared in the same physical environment, they will experience different patterns of environmental stimulation in a psychological sense. One needs to look behind the sheer physical features of a pupil's environment to see how its many psychological properties are defined.

We could elaborate at great length the viewpoint that brothers and sisters are not reared in the "same" psychological environment. Parents, relatives, and others have many biases and unconscious preferences related to standards of physical attractiveness, intelligence, achievement, motor skills, and so on. These attitudes, even though they may be transmitted to children through devious means and by behaviors largely unknown to the adult, become part and parcel of the child's psychological environment. Furthermore, the family and community are dynamic rather than static environments. The family's needs, frustrations, and general social circumstances often change in very meaningful ways over long periods of time. Siblings of different ages may grow up under very diverse home conditions during certain critical periods in their development. For example, an older child who has many secure relationships in the larger community may not suffer the same psychological impacts of a broken home as his sibling of preschool age.

Individuals respond differently to the "same" environment

Pupils interpret identical environmental circumstances in different ways. These differences in perception, or psychological interpretation, are the results of genetic predispositions interacting with life experiences. For example, social approval from the teacher may be perceived by one pupil as a sign of encouragement for greater achievement while another pupil perceives it



Bill and Jim, who are brothers, are growing up in the same home but under very different environmental conditions. What may be some of the factors that make their home environment different?



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as an invitation to relax his efforts because of superior performance (15). Or, one pupil may perceive an athletic contest as an opportunity to have fun while another pupil views it as a further threat to his self-esteem and social status should he fail to come out on the winning side. When the teacher says, "We will now have our test in history," she can observe many different responses in her pupils: the faces of a few "light up" in anticipation of the challenge, a few grumble good-naturedly but seem undisturbed by the prospect, others appear anxious and apprehensive, while still others appear apathetic as if they were all set for inevitable failure. Lecky (9) has marshalled a considerable body of evidence to show that self-concepts and perceptions of environmental events are extremely important in determining human response. In other words, the child who anticipates failure and regards himself as inadequate for an imposed task is likely to display an inferior performance. There is considerable clinical evidence that more favorable perceptions and self-concepts lead to improved achievements.

The pupil's perceptions of environmental conditions are the products of many psychological conditions (1). He tends to interpret external events in ways that are consistent with his psychological preferences and needs (3, 10). For example, the pupil who has a strong need for achievement appears to be more sensitive to environmental cues related to striving and accomplishment.

The pupil's perceptions are also highly influenced by social factors. One investigator has demonstrated that individuals will accept extremely unreasonable and "outlandish" perceptions when they are given "faked" information about the perceptions of the majority of their associates (2). This social influence on perception is also strikingly shown in the autokinetic phenomenon. When individuals are placed in a totally dark room and exposed to a stationary pinpoint of light, they perceive the light as moving, up and down, to the left and to the right. An individual's perception of the direction of movement is strongly influenced by the responses of his associates in the situation. In view of this kind of influence, it is easy to see how unreasonable



A pupil with a strong need for achievement may "see" this boy as day-dreaming about the many things he would like to do in life. A pupil with a weak need for achievement may see him as escaping from his studies by a wild flight of his imagination. (From Theron Alexander, *Adult-child interaction test*. Society for Research in Child Development. With permission.)

racial and religious prejudices are established during early childhood. On the other hand, these findings document the opportunities available to the teacher for influencing the pupil's perceptions both of himself and of the external environment. What the teacher says and how she behaves are potential models for pupils as they strive to acquire realistic and personally rewarding perceptions of a complex world.

The social environment imposes "developmental tasks"

During the growth period, civilized man is exposed to a series of environmental demands which define a central core of the socialization process. As boys and girls grow toward maturity they are expected to develop certain competencies and to assume socially conventional responsibilities. For example, the infant of eighteen months is expected to get around pretty well on his own two legs, the child of seven years is expected to display the rudiments of reading skill, and the youth of sixteen is expected to have fairly definite plans for his vocational future. Similar cultural demands are made throughout the life span.

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These developmental tasks differ somewhat from community to community or across racial and socioeconomic lines within the same community. They are, however, remarkably consistent within a given subculture. Grandparents pass their developmental expectations on to parents, neighbors exchange child-rearing attitudes over the back fence, schools have a prescribed curriculum formalized by state departments of education, and so on.

BEFORE THE 6TH BIRTHDAY



BEFORE THE 9TH BIRTHDAY



BEFORE THE 12TH BIRTHDAY



BETWEEN 12TH AND 15TH BIRTHDAYS



FIGURE 2-2. Pupils are expected to display certain behaviors at different age levels. Some of the developmental demands are shown in these illustrations. (Based on Edgar A. Doll. *Vineland Scale of Social Maturity*. Educational Test Bureau. Redrawn from *Your child grows up*. John Hancock Life Insurance Co. With permission.)

Robert J. Havighurst of the University of Chicago has prepared a volume which summarizes the major developmental tasks of the American culture (7). The following excerpt² may give you something of the flavor of this interesting book.

² From R. J. Havighurst. *Human development and education*. New York: Longmans, Green and Co., 1953. Pp. 97-98. With permission of author and publisher.

AN OVERVIEW OF GROWTH

At age nine one of the developmental tasks is "Acquiring a set of values and an ethical system as guides to behavior."

Basic patterns of belief about good and bad, right and wrong, are laid down in earlier years in the context of the family. However, these tend to be relatively crude formulations in the child's thinking. He moves into wider interaction in the school with others his own age, adults, members of different groups, and the like. Two kinds of development take place in middle childhood. One is acquisition of a system or set of values that enables a child to act more and more consistently as an honest, responsible, and loyal person in a variety of situations. The other is the development of an ethical code based on experience in the give-and-take of games and other activities with the peer group. This code is more flexible, more open to modification by reason and experience, than the earlier code, which was taken in uncritically from the parents and without much grasp of its real meaning.

It is not expected the child of nine will show up as having a well-formulated and flexible value system; but this gradual development progresses to near completion in adolescence. He comes to take more and more responsibility for what he does. The accomplishment of this task requires the presence of discrete elements of a personal code of behavior and the integration of these elements into an attitude toward life that motivates the individual to act in a "moral" fashion.

It is easy to see that this developmental task would differ in age placement within different subcultures. Some subcultures would never place very much emphasis on this demand, while others would emphasize it heavily at an earlier age. We are not trying to evaluate what is the "proper" thing to do, but rather to show that the varying expectations of other people in the pupil's social world constitute an important part of the pupil's environment. The beginning teacher will want to check to see that her own expectations of pupil competence and growth are consistent with those of the larger community within which she must work. Without such knowledge she may eventually find that her expectations are unrealistically high or low, either of which extremes would make her less effective as a teacher and counselor of a particular pupil's continuing growth.

The teacher would be in a better position to understand these pupils if she knew something about their home environments.



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Understanding the pupil's environment

The modern teacher needs reliable and valid information about each pupil's physical and social environments in order to have a firm base for the many decisions she must make. Ideally she should visit each home, have extended conferences with parents and other teachers, be carefully trained in observational techniques and have the time to observe each pupil in organized and casual group activities, and be in command of the theories and research findings necessary to make valid interpretations of the data she has collected. Obviously, these ideal conditions can at best be only approximated by an already overburdened classroom teacher. She must depend on less reliable information. The first year in a community is the most difficult. The succeeding years will find her more knowledgeable as she gleans usable facts from her day-to-day excursions around the community and from her casual conversations with other teachers, pupils, shop-keepers, and other individuals. She must not, however, ever consider these types of information as completely reliable indicators of a given pupil's environmental conditions. She must remain sensitive to the distortions and stereotypes of even the best-intentioned of informants and seek her own evidence when she is in grave doubt. In some instances she can, because of her newness in the community, observe significant environmental factors long neglected or overlooked by teachers of longer tenure. Her new perspectives may be extremely helpful in permitting a more reasonable interpretation of a given pupil's behavior tendencies and psychological adjustment.

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Pupils Adjust to a Complex Society

EVERY ORGANISM strives to satisfy its needs by seeking appropriate relationships with a variety of preferred environmental conditions. The physiologist speaks of *homeostatic processes* whereby the organism normally maintains a stable internal state in its interactions with the external world. For example, the human organism by perspiring cools itself and by shivering warms itself, both homeostatic processes of maintaining a constant internal temperature. The psychologist has developed a somewhat similar concept called *psychological adjustment* whereby the organism tries to satisfy its native and acquired needs by varying patterns of behavior.

The pupil attempts to satisfy his many needs by directing his behavior toward preferred goals. His need to be socially dominant may lead him to social interaction with another individual whom he has previously been successful in dominating. His need for social recognition may draw him to another person who usually praises his accomplishments. His need for sweets may bring him to grandmother's cookie jar. Some of his responses are successful and he *learns* to direct himself in similar directions on subsequent occasions. Some of his need strivings end in failure and then he must attack the problem anew, seeking an alternate route to the preferred goal or an old established path to a substitute goal.

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And, of course, some of his need strivings are continuously frustrated and he must adjust to chronic frustration.

Pupils differ in all components of the psychological adjustment process. For example, they vary in the strength of their various



FIGURE 3-1. Pupils have different needs. One pupil who plays alone may have a strong need to be with others, while another pupil may have little need to share his experiences with others.

needs. One pupil may have a very strong need for social interaction with his classmates and a relatively low need strength for academic achievement. These conditions may be reversed in another pupil. In addition, even when it can be inferred that two pupils have approximately equal needs for academic achievement, one may seek goals related to progress in arithmetic whereas another neglects this subject in favor of social studies. In other words, pupils may select different goals to satisfy the same needs. And they of course differ in the aptitudes and talents they can command for reaching preferred goals.

Pupils also vary in the ways in which they respond to frustration. Some display much more flexibility and ingenuity than others in modifying a previously successful pattern of behavior

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which is no longer appropriate. Even pupils of equal intelligence may differ greatly in the degree of variability of response they display in a problem situation. One pupil will rigidly adhere to an unsuccessful approach with only minor variations in attack. Another pupil will systematically try out what appears to him to be a whole series of reasonable approaches to the problem. And, of course, the latter pupil has the greater chance for success in the long run.



FIGURE 3-2. When faced with frustration, children respond differently, depending on their individual patterns of psychological adjustment. (From J. J. B. Morgan. *Child psychology*. (3rd ed.) Rinehart & Co., Inc., 1942. With permission.)

There are also tremendous differences among pupils in their responses to chronic or prolonged frustration. The varied behavior patterns of small children when confronted with a "closed" playground are shown in an interesting way in Figure 3-2. As may be seen, some of the children continue to attack the problem in a most direct fashion: efforts to climb the fence, force open

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the gate, or pry under the fence. One child modifies his approach by soliciting aid from a nearby adult. Another child accepts the less desirable goal of playing with rocks, thereby substituting one play activity for another. And a few of the children give up the struggle with their play needs still unsatisfied: one points, another sticks out his tongue in defiance, and still another withdraws into sleep. With increasing age, boys and girls show an ever greater variability in response to prolonged frustration. Verbal defenses like rationalization (the "sour-grapes" defense) and projection of blame become more prevalent. The patterns of adjustment most commonly employed by a pupil define important features of his style of living. In summary, pupils have different need strengths, different preferred goals for satisfying their needs, different aptitudes and competencies for reaching desired goals, and different ways of responding to temporary and to prolonged or chronic frustrations. When the foregoing are combined with different environmental opportunities and deprivations the immense complexity of pupil adjustment becomes obvious.

An equally important component of psychological adjustment involves the pupil's self-evaluations. How does he regard himself? It is well known that many boys and girls are often unrealistic and biased in their self-appraisals. The tall boy considers his height a handicap, whereas the shorter boy wishes he were taller. The girl with blond hair genuinely believes that only brunettes are interesting to the opposite sex. The star football player believes that everyone considers him "dumb" because of his size and athletic skill.

Even when pupils have real handicaps they may be perceived and evaluated in a number of different ways. There are many biographical records of individuals who overcame their original handicaps by various programs of self-improvement. Others have developed special skills to offset or compensate for their deficiencies. A handicap may be interpreted as a challenge or accepted as a signal of defeat. There are also the depressing biographies of individuals who became overwhelmed by "imagined" deficiencies or who led psychologically "warped" lives to prove to the world (and more importantly to themselves) that they could

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become powerful and tyrannical even though they were physically small or deficient in some other human attribute. In the history of the Western World the careers of Napoleon and Hitler come easily to mind.

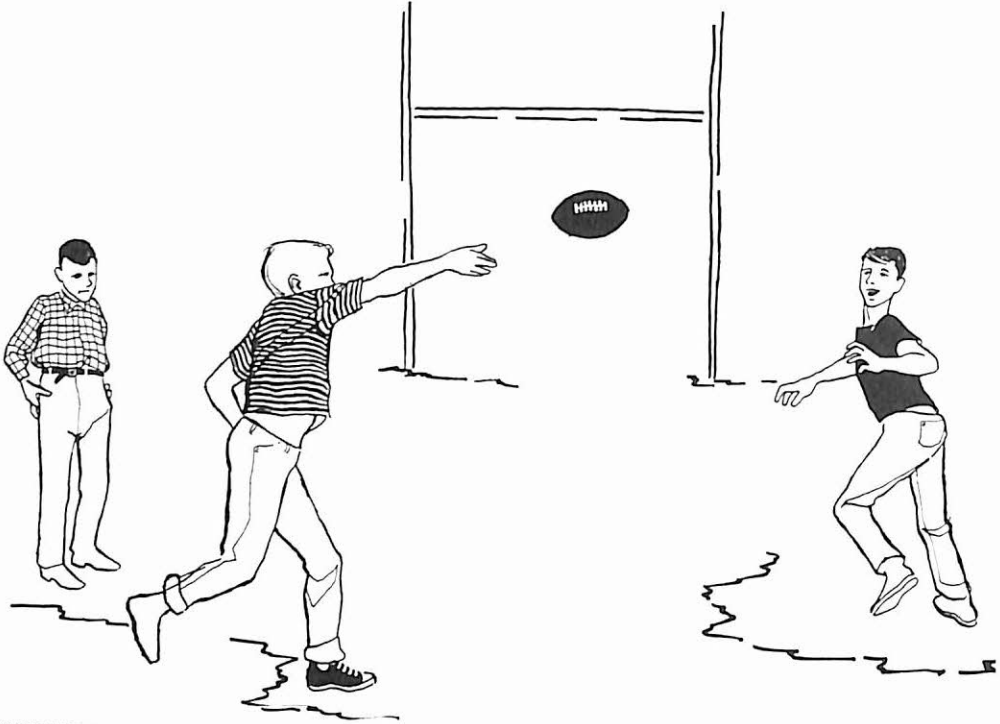


FIGURE 3-3. The late maturing adolescent boy may come to evaluate himself as inadequate because of his physical immaturity in comparison with his peers. Pupils need guidance in order to develop realistic and wholesome self-evaluations.

In modern education the teacher has accepted some of the responsibility for guiding her pupils toward socially acceptable and personally rewarding patterns of psychological adjustment. She is commissioned not only to teach the academic skills but also to lead her pupils toward healthy styles of living and sound appraisals of their potentials for contributing to human welfare. These are difficult assignments. Let us examine in more detail some of the individual components of the adjustment process in the hope that the teacher's task can be more sharply defined and understood. This will be more of a preview than an exhaustive

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discussion, because several of the later chapters in this book deal with the dynamics of pupil adjustment and the teacher's role in promoting a positive social atmosphere in her classroom.

Pupils have different needs

It seems probable that all human infants are born with pretty much the same needs. However, even the most casual observer of human behavior must conclude that from these few basic needs the child can move in many different directions as far as his demands on the environment are concerned. One child may develop a very strong need to relate himself to others in a dependent fashion, whereas another child of equal age and similar parentage may develop a strong need for social independence. One adolescent youth may display strong needs for cognizance—that is, pure understanding, with little apparent need for more tangible achievements which might be recognized and approved by others. And another pupil's behavior may reflect the opposite hierarchy of need strengths.

An accurate evaluation of the relative need strengths of a given pupil is an important step toward understanding, and an effective point of departure for influencing his behavior. Let us consider a situation that illustrates the importance of need strength as an influence on human behavior. Lewis M. Terman in his study of the adult life achievements of boys and girls who had very high intelligence (IQ's above 140) found that some few of them failed to extend their education through university and professional schools (10). They seemed content to accept unskilled or semi-skilled employment in adult life. An examination of their backgrounds and interests revealed the relatively low strength of their need for achievement. They were just as intelligent as the boys and girls who became doctors, lawyers, dentists, and professors, but they were not as ambitious for these or any similar kinds of achievement. They also seemed just as happy and content with their low-level careers as the professional individuals with their more highly rated accomplishments. The teacher can not, and probably should not attempt to, force such pupils into achievement activities for which they have only a low level of need. But



The understanding teacher can encourage her pupils to "raise their sights" toward more socially acceptable goals of orderliness, neatness, industry, co-operativeness, and so on. (Research Laboratory Classroom, University of Michigan, Ann Arbor. Photo, Hedrich Blessing. With permission.)

can she influence them to "raise their sights," to strive toward more socially significant goals? What are the factors that promote a high need for achievement? We can perhaps find answers to these questions by reviewing some experiments.

McClelland and his research associates have studied the origins of the need for achievement in a number of experimental settings (4). The following excerpt is a summary of their observations and inferences about the development of a need for achievement:¹

The data we have to date strongly support the hypothesis that achievement motives develop in cultures and in families where there is an emphasis on the independent development of the individual. In contrast, low achievement motivation is associated with families in which the child is more dependent on his parents and subordinate in importance to them. In both types of homes there may be plenty of love and affection, but in the homes of the "highs"

¹ From D. C. McClelland, *et al.* *The achievement motive*. Appleton-Century-Crofts, Inc., 1953. Pp. 328-329. With permission of publisher.

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the son is more apt to "talk back" without deep feelings of guilt and to go off on his own rather than submit to the standards imposed on him by his parents. The contrast should not be thought of too simply in terms of the autocratic-democratic dimension, currently so popular in psychological literature. The parents of the "highs" may be quite dictatorial, particularly when the son is young before he has learned to act successfully by himself; but if they are, they still act as if the child exists as an individual worth developing in his own right rather than as a subordinate part of a larger, "solidary" family unit to which he owes loyalty over and above his own individual interests. In the latter type of home from which the "lows" are most apt to come, the son must subordinate his interests for the sake of the family or even more extremely, he may not even develop a conception of himself as an individual having interests more important than his obligations to the family unit. Thus when, as an adult, the "low" is faced with the problem of going against a group all by himself as in Asch's experiment, he often cannot do it. It is inconceivable.

Until there is evidence to the contrary it seems safe to assume that some of these factors related to achievement needs which function within the family may also be operative in the classroom. It would appear that the teacher who displays a real respect for the judgments, interests, and decisions of the individual pupil may be able to influence his needs for achievement in a positive direction.

Pupils strive toward different goals

Even when two pupils are experiencing the same need at comparable levels of need intensity they may still strive toward very different goals. Two hungry boys may seek very different kinds of food to satisfy their needs. Or in response to more complex social needs like the need for achievement or the need to be recognized as outstanding the same two boys may direct their activities in very different directions.

What are the dynamic processes that determine a youth's demand for a particular type of goal object? The explanation offered by the reinforcement theorists is attractive because it is relatively simple and at the same time extremely useful (9).

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According to this conception there is a preferential ordering or response tendencies in an individual when he is experiencing a given need. That is, there is a hierarchy of response tendencies with a first most probable (and "preferred") pattern of behaving, a second most probable, and so on. If the most "preferred" pattern of response does not meet with success, then the second most probable response is initiated. When there is continuing frustration of goal approaches, we observe response patterns that are very low in the pupil's hierarchy. For example, the pupil who is repeatedly frustrated in his goal strivings toward achievement-recognition may eventually display a mischievous or defiant pattern of response which demands recognition of his "accomplishment." This response tendency is usually very low in the hierarchies of well-socialized boys and girls because it typically results in some form of punishment. However, pushed to the limits of their potentialities, most pupils will demand recognition *whatever the consequences*.

How do youth come to prefer different goals for the satisfaction of the same need? The pupil's hierarchy of preferred patterns of response is established by the learning principles discussed at some length in the later chapters of this book. In brief, each pupil has a unique history of successes and failures, or rewards and punishments, connected with his efforts to satisfy a given need. Youth from diverse social and cultural backgrounds learn to prefer different goals. Response patterns that have repeatedly satisfied needs move very high in the habit hierarchy and will be repeated again and again, even under conditions of frustration and failure. By way of illustration let us consider a case cited by Edward C. Tolman (11). A university student has become very disturbed psychologically and reports to the mental hygiene clinic for diagnosis and aid. It is found that this student in his youth always received generous amounts of approval and affection from his parents for his outstanding scholarship. Hard study and academic success became a preferred way of gaining recognition and affection. In the university he was regarded as a "greasy grind" and other students avoided him or made fun of him. He



Youths acquire preferences for goals which they can reach and for which they are given social approval. The boys in this illustration will probably develop different hobbies on the basis of these experiences with their fathers.



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responded to these frustrations by working even harder on his academic studies, the preferred response in his hierarchy of habits related to needs for approval, affection, and social recognition. His frustrations became so intense that they eventually

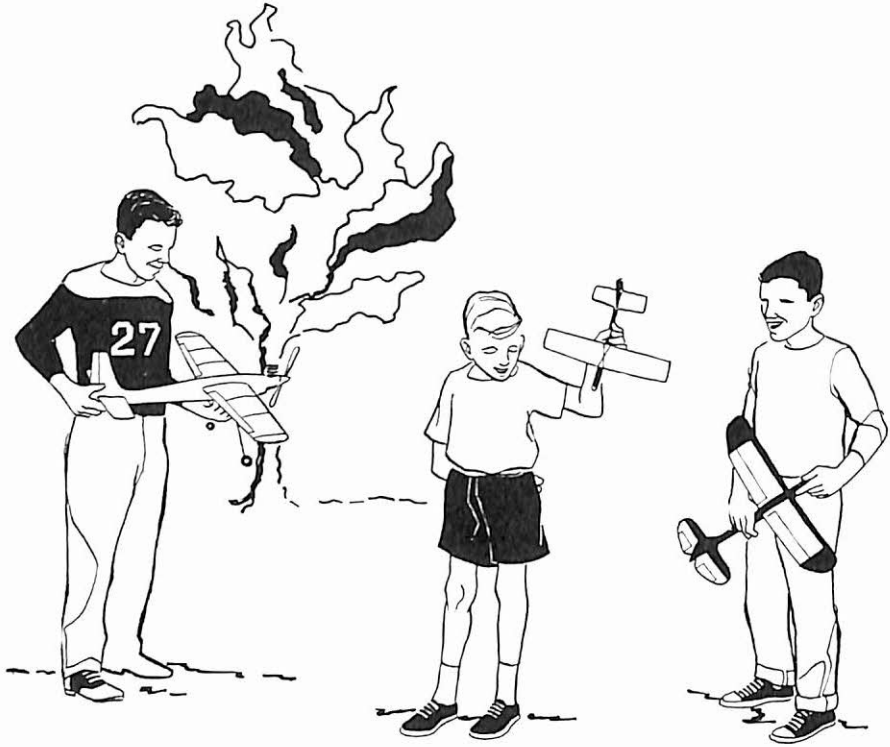


FIGURE 3-4. Pupils set different standards for themselves. The pupils in this picture are obviously pleased with their accomplishments, although their productions differ greatly in quality. The teacher can help pupils to strive toward goals commensurate with their talents and abilities.

interfered with his scholarly activities, he became morose and depressed, and finally sought counsel for the personal problem which he could not solve.

Another interesting feature of goal-directed behavior involves individual differences in the *quality* of the goal required to satisfy a given need. For example, some pupils are satisfied and happy with a mediocre achievement, while others demand a high level of performance. This aspect of goal setting is what Kurt Lewin called "level of aspiration" (3). He and his students have shown

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that the quality of goals demanded by a boy or girl increases with age. For example, a preschool child may be pleased and satisfied to stand directly over the post in a game of ring toss and simply drop the rings over the pin. Older children force themselves to stand back at ever increasing distance in order that they may experience feelings of success about their accomplishments. A few children seek goals which are so difficult and idealistic that they are almost certain to fail. Other children accept goals that are so ridiculously easy that they are certain of success. The most desirable goals for a pupil's continuing development would seem to be those that offer a reasonable challenge to ever increasing levels of achievement. There is good reason to believe that the teacher is a most important influence on the pupil's goal-setting tendencies. For example, Pauline Sears has shown that pupils who experience prolonged academic failure become either apathetic or very unrealistic in their levels of aspiration (8). Even adults with records of outstanding achievement (like Sir Isaac Newton) may become depressed at their failure to reach still higher but actually unreasonable goals. It would appear that the teacher should help individual pupils to strive for goals commensurate with their abilities, so that they experience both considerable success and some degree of failure, which will stimulate them toward the acquisition of more skills and knowledge. A wise use of social approval and disapproval with aids toward pupil self-evaluation would seem to be the best teaching procedure.

Now for a word of caution. The teacher cannot expect pupils from diverse cultural backgrounds to adopt her own hierarchy of preferred goals. They have their own preferred goals which are indeed subject to some extension and modification but which they are unlikely to abandon *in toto*.

Pupils have distinctive hierarchies of preferred goals which must be respected so long as they are not in open clash with the demands of society. The teacher should attempt to help her pupils explore their capacities for more complex experiences such as a love of "better" music and of the finer kinds of literature, and the like, but all the while understanding and showing appreciation for their present response preferences.



Even outstanding contributors to culture like Sir Isaac Newton have goals which are often far in advance of their perceived accomplishments.

Pupils respond differently to frustration

All goal strivings are frustrated at one time or another. Pupils often set impossibly high goals for themselves. Or they may not transfer appropriate knowledge from past experience to reach a particular goal. Or they may be prohibited from attaining a given goal by personal deficits in skills or knowledge. Also they are sometimes too restricted by the mandates and cautions of adults to permit attainment of desired goals. Whatever the restricting conditions may be, frustration is an inevitable problem of human adjustment with which the pupil must cope in one manner or another. It is important for the teacher to know the characteristic way in which each pupil responds to frustrations.

Failure to reach a desired goal means that the pupil has: (a) utilized an inappropriate response from his established hierarchy of behavior patterns, or (b) does not have the response available from his repertory of habits formed through previous experiences. In order to overcome the frustrating conditions of an inappropriate response the pupil must be able to vary his inter-

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pretation of the problem so that the effective behavior can be produced. Some pupils have great difficulty in shifting from an unsuccessful pattern of responding. They rigidly repeat the inappropriate approach and become increasingly emotional over their failure to reach the goal. This type of behavior seems especially characteristic of pupils under the following conditions: (a) when the inappropriate response has been "overlearned" or overpracticed in a perceptually similar situation, (b) when the pupil has an exceptionally strong need to reach the goal, and (c) when the pupil is anxious or apprehensive about his personal adequacy in solving the problem (11).

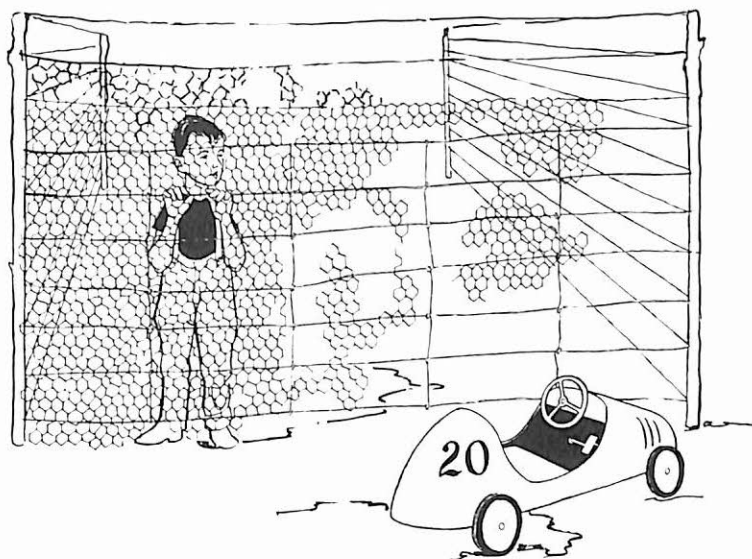


FIGURE 3.5. The stronger an individual's need to reach a particular goal, the greater his difficulty in giving up an unsuccessful approach to the goal. This is illustrated in the young child's difficulty in a "detour" problem.

Frustration imposed by the pupil's lack of appropriate experience is a more familiar educational problem. Teachers are generally more sensitive to the differences among pupils in reacting to such an adjustment problem. Some pupils typically expend large amounts of time and energy in acquiring whatever skills are needed for success, while others seem reluctant to strive for the necessary skill to master any problem. The former seem eager

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to meet the challenges of frustrating barriers. Indeed, it has been shown that some individuals prefer more difficult goals even when to a disinterested observer they seem identical in worthwhileness with more accessible goals (1). On the other hand, there are pupils who appear to be demoralized by almost any type of frustrating circumstances. They give up, beg for outside help, or become so emotional that they are totally incompetent to cope with their personal problems. Saul Rosenzweig has described such individuals as unable to tolerate frustration (7). They appear to lack the habits which are necessary if they are to overcome even minor obstacles in their goal strivings. It is suggested that they could profit from planned exposure to problems which are not too difficult to permit success, and which become gradually harder and more complex. It is as if they need to be immunized against the ravages of frustration by coming up against a graduated series of problems which they can solve successfully with their own resources. The net result of such a program of education is an ability to "tolerate frustration," or what the layman might simply describe as "self-confidence" when up against difficult adjustment problems.

Maladjustive responses to frustration

One of the most interesting theories concerning the consequences of frustration asserts that frustration always leads to an increased need for aggression. This conception which has been developed by a group of scientists at Yale University is known as the "frustration-aggression hypothesis" (2). According to this point of view each frustration produces an increment in the *need* for aggression. These increments from successive frustrations gradually add up until an aggressive response is made; then the need is reduced. Such aggression results ordinarily in injury to an organism, or an organism surrogate (something standing for the organism as, for example, a frustrating neighbor's dog). In some instances the organism that gets injured may be one's self—like self-depreciating remarks, or even self-mutilation or suicide. However, because aggression toward one's self is immediately painful, most of an individual's aggressive tendencies are "extrapunitive";

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FIGURE 3-6. Frustration induces a need for aggression which is directed toward persons perceived as least able to defend themselves.

that is, directed toward other organisms or their substitutes.

It is commonly observed that frustration does not always produce an immediate act of aggression. This is so because any sign of aggression is often followed by some form of punishment which tends to restrain such hostile and destructive behavior. However, whenever the *need* for aggression mounts to a high level of intensity the pupil is alert to any opportunities where he can vent his *latent aggressive impulses* without too much threat of reprisal. Under such circumstances he may "attack" a younger child or join other classmates in making a "scapegoat" of a psychologically defenseless classmate. Or he may cast his aggressive behavior into a form that cannot be easily detected by others (teasing is a favorite form of camouflage), or he may merely day-dream about overcoming his enemies (typically a most unsatisfactory release). In all these forms of aggression it is to be noted that the attack is on the person held responsible for the frustration, or something that can be identified with him.

It is also instructive to remember that the *need* for aggression builds up with each successive frustration until the aggressive

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impulse is somehow resolved. The latter offers an explanation for the behavior of pupils (and teachers) who "blow up" over minor irritations in the classroom. Responding to frustration with direct and unequivocal aggression is almost always maladjustive because it leads to counter aggression and hostility.

The teacher can do much to help the overly aggressive pupil. She can assist him to make a more objective appraisal of his talents and skills so that he can set more reasonable goals for himself and thereby experience fewer frustrations. She can also guide him toward more socially acceptable ways of expending his aggressive impulses through substitute activities. The latter is related to what Freud spoke of as the *sublimation* of primitive instincts. Substitute action, or sublimation, is looked upon as the most desirable way of handling aggressive and other antisocial impulses because destructive tendencies are thereby deflected toward the betterment of mankind.

Now let us look at a decidedly different response to frustration. Some pupils become apathetic and socially withdrawn under frustrating circumstances. This adjustment pattern is evaluated very unfavorably by mental hygienists because it signifies an orientation away from goal-directed actions. The pupil is no longer striving to satisfy his original needs, so there is now no possibility that he may acquire the skills that are required for success.

Mental hygienists are also especially concerned about pupils who adopt apathetic withdrawal as a pattern of adjustment, because such pupils frequently go unnoticed by parents and teachers. The withdrawn pupil does not disturb classroom or home routines. Even though he is personally unhappy and socially ineffective, he does not demand attention or aid in solving his problems. The experiences of success that he needs to build up his frustration tolerance, self-confidence, and feelings of personal adequacy cannot be planned by the teacher who does not detect his difficulties. As a matter of fact, he may be regarded as a "model pupil" because he never disrupts classroom procedures. His low level of accomplishment may be inaccurately diagnosed as lack of interest or a poor background in academic skills.

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Still another way of responding to chronic frustration is frequently observed. The pupil develops various psychosomatic complaints and symptoms. When other adjustment mechanisms fail the pupil may become physically ill as a means of avoiding further frustrations. Psychological distress is converted into physical disorders like nausea, headaches, asthma, colitis, peptic ulcers, and so on. These are real physical disorders induced by chronic anxiety and frustration and are the subject of study in psychosomatic medicine. Whenever a teacher learns that one of her pupils is ill during the school week and completely recovered over the weekend, or is nauseated just before leaving for school, she should examine the child's relation to the curriculum, his social relationships within the classroom, and her own teaching practices, for possible sources of frustration. If the symptoms persist after she has done everything within her power to correct the adjustment conditions, she should seek aid and counsel from specialists like the school psychologist, the guidance counselor, or some member of a nearby child guidance clinic. It is strongly recommended that some such action be taken because psychosomatic disorders are likely to become chronic modes of adjustment that may handicap the pupil throughout his entire life.

The foregoing is a brief and very rough outline of maladjustive responses to frustration. Now let us turn our attention to the conflicting social demands made on a pupil for different types of psychological adjustment.

Pupils adjust to a complex society

The concept of "good" pupil adjustment is relative to a given reference group. It usually has no absolute meaning, for the very same pattern of behavior may be regarded as "good" by one group of people and as undesirable by another. This difference in evaluation may even occur within the family unit, as illustrated in Figure 3-7.

Since the same behavior pattern is often evaluated so very differently in various social settings, the pupil is called upon to play several roles. That is, he must be dependent in one situation and independent in another, question authority and think for

AN OVERVIEW OF GROWTH

himself under some social circumstances and not under others, be aggressive on the playing field and submissive in the classroom, and so on. The role of "good" scholar which elicits teacher approval may have to be changed to an attitude of "school is really a bore" in order to gain approval from peers.



FIGURE 3-7. An illustration of conflicting interpretations of an adjustment pattern.

In order to understand pupil behavior in its broad perspective the teacher must have knowledge of the many roles that get rewarded in a variety of social groupings. She must also be sensitive to a pupil's conflicts when different roles are demanded in the same social setting. When a pupil defies the teacher's authority, this may have little to do with the reasonableness of the teacher's request or the pupil's desire to please the teacher. Rather the pupil may feel called upon to maintain a role he has established for himself among his classmates. Understanding this is not to condone the defiant action, but it often does provide the teacher with leads as to how she may assist the pupil in handling his conflicting roles on later repetitions of a similar occasion.

PUPILS ADJUST TO A COMPLEX SOCIETY

Helping pupils adjust to a complex society

What is the teacher's responsibility? There is no clear answer to this question, because our modern schools are in transition from an emphasis on academic skills to a philosophy of total pupil growth and adjustment. However, there seem to be unmistakable signs that the modern teacher wishes to be, and is expected to be, concerned about her pupils' growth and well-being in an extremely broad sense. As a matter of fact, mental hygiene is one of the new frontiers in American education. It now seems abundantly clear that mental health is just as important to the welfare of our democracy as physical health. And the teacher has a unique opportunity to contribute to this new program.

Just what *can* the teacher do to increase the probability that her pupils will become happy and productive members of our ever changing society. We have already hinted at some of the positive steps she can take and a few of the pitfalls she must avoid. These suggestions are elaborated in considerable detail in later chapters of this book. In general it can be concluded that the effective teacher must attempt to promote adjustment patterns that are satisfying to the individual pupil, that are flexible to changing needs and social conditions, and that are approved by the members of the many subgroups in which the pupil must function. This is not an easy assignment. In her role as mental hygienist the average teacher is handicapped by many circumstances, such as lack of knowledge, inadequate facilities for teaching the more "personal" lessons of human adjustment, and lack of appreciation from parents for her efforts in this relatively uncharted area of modern education.

The teacher may be appropriately visualized as an understanding and sympathetic counselor of youth who is continuously alert to pupils' problems in the nonacademic as well as the conventional academic areas of growth, and who is always willing to lend aid and comfort within the limits of her personal resources. However, in the last analysis she is a teacher and not a psychotherapist. When she feels that she has done her best to help

THE EFFECTIVE TEACHER draws on many kinds of knowledge. She must have full command of subject-matter and a broad understanding of the processes of growth, learning, and adjustment. She must also understand each pupil in order to guide his further progress in the several kinds of learning for which the school is responsible.

A substantial part of your time as a teacher will be spent in trying to obtain reliable, objective information on the similarities and differences that exist among your pupils. The insights provided by these evaluations are basic to your success in meeting the needs and promoting the best interests of these pupils. This section presents some of the best-known methods for obtaining objective, reliable information about your pupils.

Evaluating Pupil Growth and Development

"PEOPLE ARE DIFFERENT." This statement, so obvious that it is a truism, is most important to the modern teacher. As a prospective teacher yourself you have probably been wondering what it will be like to face your class for the first time. You are already aware that your first observations from the teacher's desk are likely to provide you with very limited information about your pupils. Is there anything you can do to speed up the process of "getting to know them"? How can you secure an early understanding of the many, often wide, differences in their skills, talents, interests, and pattern of adjustment?

Miss K—, a beginning fifth-grade teacher, was seated at her desk a few days before the opening of school thinking about her new class. Anticipating the first day of school, she took her class list and went down to the principal's office. Let us see what kinds of information she found there.

As she examined the personnel folders of the pupils she was about to meet for the first time, she noted that Sally was reading about to meet for the first time, she noted that Sally was reading at the tenth-grade level. Yet Sally was only a little better than average in arithmetic. Johnny had an IQ of 128, yet did only average work in all subjects. Jimmy had received the highest marks in his third-grade class, but did such unsatisfactory work in the fourth grade that his promotion was seriously questioned.



Miss K—— is examining the office files in the principal's office to obtain information about her new class.

Betty consistently received high marks but had always shown little interest in her fellow students. Tommy, the brightest pupil, had spent a substantial part of his time in the principal's office as punishment for continuous misbehavior. As she continued to study the records she thought, "This is going to be a most interesting class. I feel that I am beginning to see some of the problems already."

What kinds of information does the teacher need? How can she find out, with confidence that she is right, the present status of her pupils and their probable growth patterns?

For example, what is a reasonable expectation for Ann who is highly intelligent and good in arithmetic computation but poor in reading and poor in arithmetic reasoning? If we have confidence that Ann is really very bright and above average in computation, we might hypothesize that her poor reading ability is the major cause of her difficulty in arithmetic reasoning. She may not be able to read well enough to understand the problems. Special work in remedial reading would be indicated. On the other hand, if we had no reliable information about her abilities and achievement status, we would only be guessing about the

EVALUATING PUPIL GROWTH

existence of a problem and if one did really exist, we would still be guessing as to its nature and appropriate solution.

As a second illustration, Jane tests high in intelligence but low in academic achievement. She rated her classmates low on a social-relations test and in return is rated low by all of them. Here is an intelligent girl who is not achieving a reasonable amount academically. She both rejects and is rejected by her classmates. Her poor social relationships may be the reason for her academic failure. Through a series of conferences the teacher may discover that Jane feels her classmates dislike and "are against" her. Hence she isn't trying to do well in school. Without the necessary information about her intelligence and social relations, the existence of an academic problem would have been known but no solution would have been suggested.

Why is measurement important?

Almost every aspect of our daily living is touched by measurement in some of its numerous forms. We plan our day's activities with the aid of a watch. Food is purchased by the pound or by the quart. Clocks, balances, speedometers, calipers, thermometers, rulers, and other forms of measuring instruments play prominent roles in the life of every civilized person. In fact if all our measuring devices were suddenly removed, civilization as we know it would collapse.

A basic question associated with any measurement concerns its accuracy or precision. More specifically, is it accurate enough to serve the purpose for which it is to be used? For example, if a person wished to measure the size of his lawn to determine how much grass seed to buy, obtaining the dimensions to the nearest foot would be adequate. However, if he wished to know whether he could move a piano through a certain door, obtaining the width of the piano to the nearest foot would hardly be satisfactory. Even greater precision is needed by the mechanic who is turning an axle on a lathe. Accuracy of measurement must always be considered, whether the characteristic being measured is physical or mental.

In addition to the instruments commonly used to obtain

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physical measurements, there is great need for instruments to measure personal, intellectual, attitudinal, and social characteristics. The increasing demands made upon the school make it clear that more and more information is needed about each pupil. In fact the very conditions which emphasize the need for better understanding of the individual pupil function to make the process of understanding more difficult. The public school teacher, in dealing with large groups of pupils, cannot hope to realize anything approaching the Hopkins-Garfield relationships where "Mark Hopkins sat on one end of a log and James Garfield sat on the other." Hence techniques, tools, and methods are needed which will bring as much individualization as possible into the classroom situation.

The two basic kinds of information concerning (a) individual differences among pupils and, (b) differences in strength among traits within the same individual, cannot be easily obtained by casual observation. In order to find out what the pupil brings to a learning situation, how far he may be expected to go, what direction he may take, and what difficulties he may encounter, direct observation must be supplemented by more searching and objective techniques. Within the past half-century many methods of analysis and appraisal have been developed to assist the teacher in understanding her pupils. Among these are anecdotal records, projective techniques, rating scales, and objective measurement.

It is vital for the teacher to appreciate the extreme individual differences that exist for almost any trait or characteristic. For example, in one seventh grade, John rarely solves an arithmetic problem incorrectly while Jane seldom gets more than one or two right. Sam has excellent co-ordination and does well in any kind of athletic contest, while Joe can barely throw a ball 20 feet. Jill has a fine voice and an excellent ear, while Jim can't carry a simple tune. Jean is reading at a college-freshman level while Sammy is reading at about third-grade level.

The contrasts just described are not exaggerated. They are typical of those occurring in any public-school grade. As evidence of the great individual differences within a grade and the enormous overlap in proficiency in successive grades examine Figure

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4-1. In this diagram we have pictured the performance on a reading test of a large number of fifth- and sixth-graders. Note that many fifth-graders have done better than many of the sixth-graders and that some of the sixth-graders read as poorly as the poorest fifth-graders. Further note the large number of fifth- and sixth-graders who are of about equal reading ability.

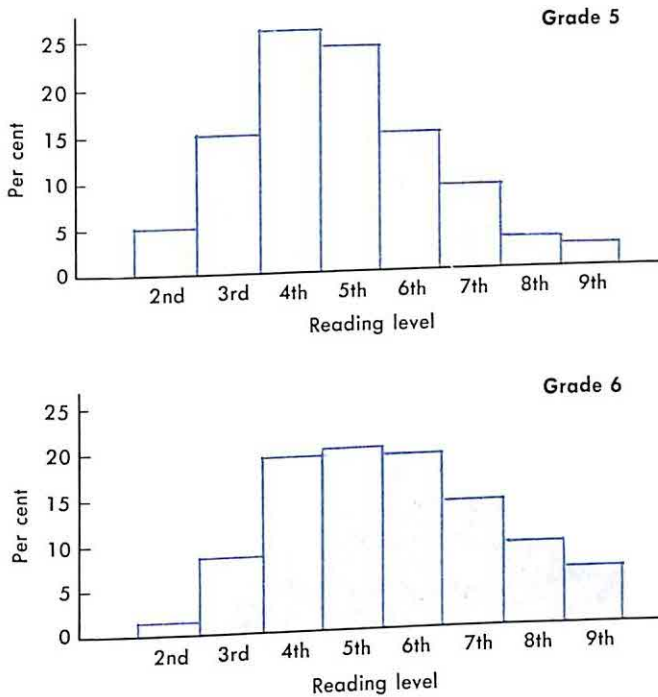


FIGURE 4-1. Per cent of children at various reading levels within grades 5 and 6 at the beginning of the school year. The large variability in reading ability within the same grade is evident. (Adapted from data in *Stanford Achievement Test Manual*. World Book Co., 1953. With permission.)

In addition to the variability among pupils it is equally important that the teacher recognize the vast differences in abilities, interests, skills and competencies within an individual. Three months after school had begun, Miss K— was back in the office to examine more carefully the available information on Tommy Jones, who was causing considerable disturbance in her class. As she scanned his folder, she noted the wide variety of comments made about him. According to his gym teacher, he was very

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responsible and a leader. The music teacher reported that he was inattentive, rude, and continually annoying the other pupils. In arithmetic he had all A's, while in social studies he alternated with a failure in one marking period and a high mark the next. She thought, "There really is more than one Tommy." It is true that the same child plays many different roles. He actually does behave as though he were a different person in a variety of situations.



FIGURE 4-2. A child actually behaves as though he were a different person in a variety of situations.

Areas in which growth is promoted and evaluated

Cultures and subcultures make differential evaluations of the relative merits of particular pupil achievements. The school, as the agent of the culture, attempts to guide and stress growth in the approved areas. There is a high premium on intelligence and academic proficiency in our culture. This is especially character-

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istic of the middle class. A different evaluation is placed upon intelligence in other cultures. For example, in certain primitive societies, motor skills are considered much more important.

A striking illustration of the variability of cultural demands among primitive tribes is shown by contrasting the Kwakiutl Indians of Vancouver Island, the Mountain Arapesh of New Guinea, and the Zuni Indians of southwestern United States.¹ The Arapesh represent a society in which there is considerable individualism but nevertheless some person-to-person co-operation of an informal nature. The Zuni, on the other hand, typify a highly organized co-operative system, while the Kwakiutl possess a culture in which personal competition of an intense and elaborate sort characterizes almost all the major interests of its members.

Among the Arapesh there is little formalized child training. Boys are left pretty much to themselves. They go about with the father or relatives at work or in hunting, but their training in skills or work habits is informal and slight. They have no great pride in hand-eye skills. They grow up without any sense of possessiveness and with little stress on personal ambition such as we find in our own society. The central value seems to be to bring the children, by easy stages, to a position where they can, as adults, assume responsibility and thus permit their parents to retire to less important roles.

Much of Zuni life revolves around elaborate ceremonials. The training of the children reflects these values. With the boy especially, emphasis is placed upon his reaching maturity at an early age. He is soon given economic responsibilities and begins to be initiated into the various secret societies. Among the Zuni, the individual is submerged in an intricate and closely-knit system of obligations to his fellows. The stress is on a co-operative mode of life.

The culture of the Kwakiutl Indians stands in sharp contrast to both Arapesh and Zuni. The outstanding features of this society and its culture are the high valuation put upon rank or caste and the almost insatiable ambition for personal glory. The

¹ M. Mead. *Cooperation and competition among primitive peoples*. New York: McGraw-Hill, 1937.



Even among primitive tribes differences in culture result in different values and types of living conditions.



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emphasis is on exaggerated ego development. In such a community the whole of life is centered around a struggle for high status and with surpassing one's rival. Property is highly valued. Suicide from angry shame is accepted as normal. Children are pushed toward adulthood amid a great stress to compete for high status.

In spite of uniformities introduced by machine technology and science, there are almost as great differences in culture among civilized societies. One has only to mention Nazi Germany and Communist Russia to call to the reader's mind many well-known differences between those cultures and our own.

Extreme differences in cultural values do exist. The educative processes of the society (whatever form they may take) attempt to guide pupil growth in a way which is consistent with the culture and which will perpetuate it. In the last analysis, the areas in which pupil growth is to be stressed and promoted is determined by the cultural goals and standards of the society.

What characteristics of pupil growth does the teacher need to evaluate?

Modern educators stress the need for information about the "whole child." Therefore, the number of questions raised by a teacher about a given pupil and his functioning are numerous. Unfortunately we can neither obtain nor assimilate all possible kinds of information simultaneously. It is necessary to specify what is needed and then obtain each type by individual appraisal procedures. It is not possible to interpret a single score obtained from an instrument that measures composites of many characteristics. For example, what could one say about Johnny Jones who obtained a low score on a test which was designed to measure a composite of reading, spelling, arithmetic, intelligence, and interests? The teacher must measure each specific function, and then integrate and interpret the findings.

Although there is almost an infinite amount of information one might theoretically gather about pupils, only a small proportion can actually be obtained and utilized. The following kinds of information have proved most helpful for answering the teach-

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er's questions: (a) achievement, (b) aptitudes, (c) interest, (d) personal adjustment, and (e) social adjustment.

How teachers can secure information about a pupil's growth potentials

Observations are basic to all measurement techniques. There are, however, many types of observation: just looking, in the broader sense; looking for specific things; and looking with the aid of a specially prepared test or rating scale.

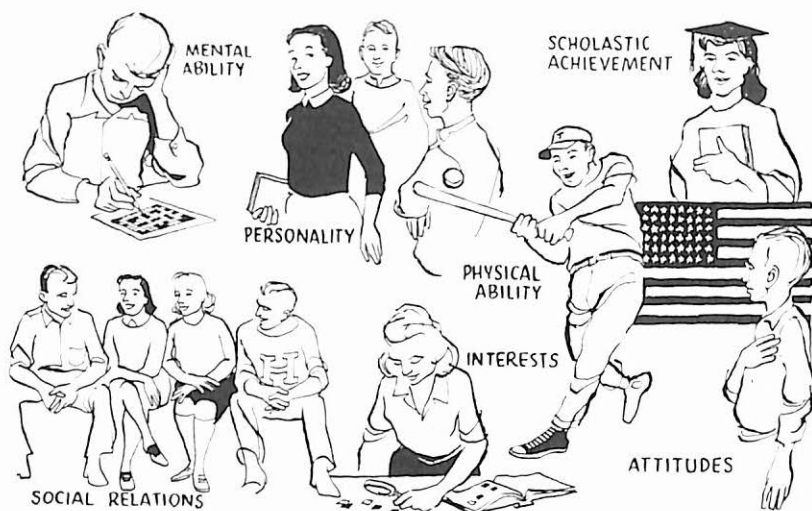


FIGURE 4.3. Here are some important areas of pupil growth which are evaluated by school personnel.

The procedure of "just looking" is not likely to be fruitful. When she knows what to "look for" the teacher is able to make a useful record of pupil behavior. Such anecdotal records are brief reports made by the teacher after viewing a particular situation of which the pupil is a part.

One of the most useful procedures is to "look" for information with the aid of a specially prepared instrument or test. Tests are devised to select samples of behavior on some dimension in a relatively controlled situation. They permit the comparison of a pupil with other pupils who have taken the same test. In general, they are easy to administer and relatively free from uncontrolled bias. Currently available tests include measures of academic skills,



The teacher engages in many different evaluative activities.



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achievements, aptitudes, interests, personality, and social relations. A test may be either teacher-made or commercially published.

Some commercial types of personality or interest inventories are used to obtain information based on self-judgments. These help the pupil to identify problem areas and major areas of interest. Valuable information is also obtained by requesting judgments from people who know the student. One very useful example of information of this type is obtained from rating scales and check lists.

Many kinds of information will be immediately available in your school. Pupils' personnel folders contain data from prior grades or schools, from former teachers and school personnel, and from numerous other sources. You will want to supplement this information with data of your own. For these data to be useful they must be interpreted. It is at the point where inferences are made that you must exhibit extreme care, for the making of inferences involves certain risk of error. You may be in error due to inadequate or irrelevant data or to a poor synthesis and interpretation. There are many kinds of available instruments, but they are not equally good. Hence, we need to consider the characteristics of sound observations and good measuring instruments.

Observations must be relevant

The first and foremost question to be asked with respect to any testing procedure is: How valid is it? When we ask this question about a test we are concerned with whether the test measures or predicts, (a) what we want it to measure or predict, (b) all of what we want it to measure, and (c) nothing but what we want it to measure. Does the test really measure what it purports to? For example, whether a so-called "arithmetic-reasoning test" is valid or not depends upon the extent to which it measures reasoning ability in arithmetic rather than other things, such as general intelligence or reading ability.

As another illustration, suppose that we wish to consider the validity of a test of reading achievement. This test requires pupils to select certain answers to a series of questions about reading passages and to make appropriate pencil marks on an answer

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sheet. We count up the number of marks which represent correct answers and call this score the pupil's reading comprehension. But the score itself is not the comprehension. Any judgment regarding comprehension is an inference based on the evidence provided by the test score. The validity of the test is not self-evident, but is something we must establish on the basis of adequate evidence.

Validity, then, refers to the soundness of the instrument for the purpose at hand and is always its most important characteristic. No matter what other merits the test may possess, if it lacks validity, it is worthless. A test is not just valid. It is valid for something. How can we determine the validity of a measurement procedure?

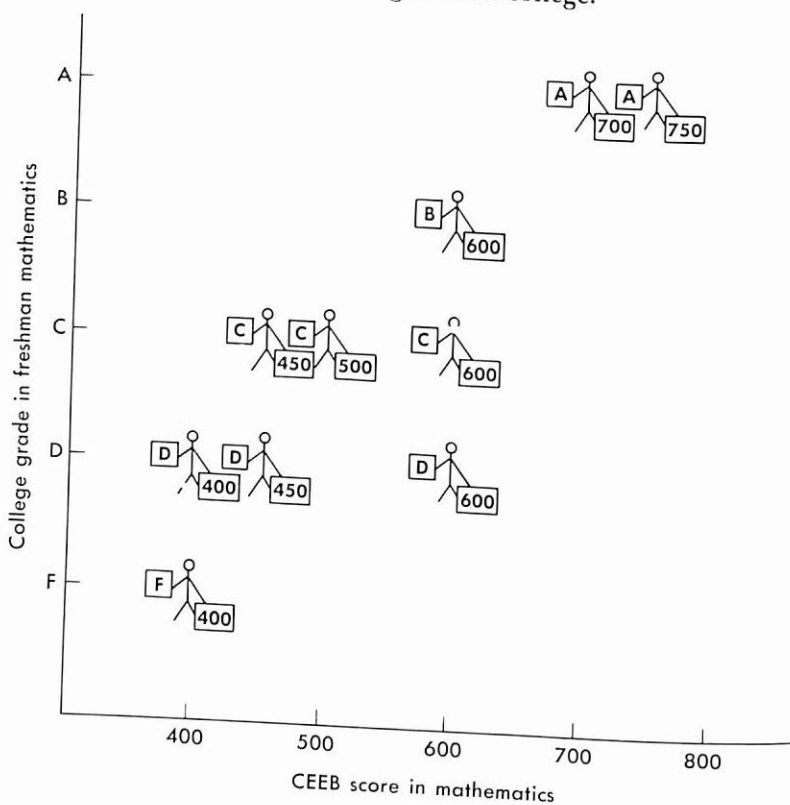
There are two basic approaches to validity: logical or rational analysis, and empirical or statistical analysis. In logical analysis, we try to make a judgment as to what the test measures. We may, using our best professional judgment, analyze the topics and areas included in the test. Validity obtained in this way is referred to as content validity. How shall we judge whether our test is a valid test of social studies? One thing we can do is examine the content of the test and see how well this content matches what we have been trying to teach. If the test contains a representative sample of the more important aspects of the course, it is said to have high content validity. As a second approach, we may analyze the activities and processes that correspond to a particular concept (such as "good citizenship"). In this case we speak of concept, or construct, validity. What does "good citizenship" actually mean? The concept "good citizenship" is broad, abstract, and indefinite. Test items must be specific, concrete, and precise. They must consist of definite limited tasks. We analyze the concept and see what kind of behavior is implied by good citizenship and then examine the test to determine whether it contains these kinds of situations. The problem of preparing a test that has concept, or construct, validity is that of bridging the gap from a broad general concept to specific tangible tasks or test items.

The second main type of evidence of validity is empirical and statistical. We attempt to show that the test is related to some other variable. This other measure may be very similar to our

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test, or it may be quite different. It may be obtained at about the same time our test is given, or it may not be available until some future time. Empirical validity is studied by comparing test results with those of a criterion known to measure some characteristic of importance. For example, if we wish to know whether a test will successfully predict college grades, we would give it to high school seniors prior to their admission to college. At the end of their freshman year in college we would then relate their scores on the test to their average freshman grade. The criterion is the average college grade at the end of the freshman year. The magnitude of the relationship, expressed by an index called the validity coefficient, indicates how well the test predicts this criterion. The validity coefficient can vary from -1.0 to 1.0 . Zero indicates no validity and 1.0 indicates perfect validity or ability

FIGURE 4-4. The CEEB (College Entrance Examination Board) examination is a good predictor of college grades. The students obtaining high scores on the CEEB examination in general obtain the best grades in college.



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to predict the criterion without error. A value of -1.0 indicates a perfect inverse relationship between the predictor and the criterion. It indicates that large values of the predictor are associated with small values of the criterion. For the purposes of prediction a negative validity coefficient is as useful as a positive one of the same absolute value.

Test designers frequently validate their instruments by correlating them with well-established tests. For example, group tests of intelligence have been frequently correlated with the Stanford-Binet, which has been thoroughly studied both empirically and logically. A test which correlates highly with the Binet is assumed to measure whatever the Binet measures and therefore is valid for similar purposes.

How do we interpret validity coefficients? We look with favor on any measure whose validity for a particular criterion is higher than that of measures previously available. Validity coefficients are seldom as high as we would like. Rarely does a validity coefficient exceed $.70$. However, any reliable positive correlation indicates that predictions from this test are better than decisions made without data. Practical considerations such as methods already in use, and time and money for testing are the factors which determine whether a particular validity coefficient is sufficiently high to justify using that particular test.

Reliability: How dependable are the observations?

Any test score is a somewhat inaccurate measure, because many errors creep in when we *sample* a person's behavior. For example, you have all taken a test where you knew a considerable amount, but the teacher just happened to ask the particular questions you couldn't answer. If we wish to measure ability to multiply, we present the pupil with many items drawn from all over the appropriate range of multiplication combinations. We obtain a *sample* of his work on those items by administering a test containing them on a particular occasion. We then make the assumption that this sample shows what his work will be like on other occasions. The measure obtained from a particular set of items will give an erroneous estimate of his ability if the combinations happen to be those especially easy or difficult for the pupil. The

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sample of behavior will also not be representative of his talents if we test him on a day when he is ill, lacks motivation, or works under adverse physical conditions of lighting, ventilation, and noise. Such errors of measurement may influence the score so that we draw incorrect inferences about the pupil's ability. An index called the reliability coefficient expresses the extent to which errors of measurement are present in the test scores. The reliability coefficient varies from 0 to 1.0. Zero indicates no reliability and 1.0 indicates perfect reliability.

By reliability is meant the extent that two or more forms of a test yield similar results for individuals within a group, or that the same test gives similar results when repeated on two occasions. In a word, reliability means consistency. Whatever technique is used for gathering information about the pupil and whatever the source, the information should be evaluated for its dependability. Little can be told about the reliability of a test from examining the test itself. Someone must try the test out to determine its reliability. Usually, for a standardized test, the author does this and reports the results in the test manual.

Sometimes we are interested in the consistency of performance of pupils on two equivalent forms of a test. We wish to estimate how much a pupil's score would change if a different sample of questions testing the same ability had been used. This method which is commonly used by makers of standardized tests involves the preparation of two or more equivalent forms of the test, and the administration of these two equivalent forms to a large number of pupils with little or no time lapse between administrations. The test is said to be reliable if there is close agreement between the pairs of scores on the two forms: that is, if the people who made high scores on the first form also made high scores on the second and if those who made low scores on the first made low scores on the second. If the agreement is perfect, a most unlikely outcome, the reliability coefficient is 1.00. If there is a complete absence of consistency, the coefficient of reliability is .00. A reliability coefficient obtained in this way is called a *coefficient of equivalence* and indicates how precisely the test measures the person's performance at the particular time of administration.

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We are also concerned with the extent to which pupils' scores on a particular set of test items are stable over a period of time. We give the *same* test on two different occasions where there has been no opportunity between trials for the pupils to increase their knowledge of the material. This procedure is known as the test-retest method and the reliability coefficient obtained is called a *coefficient of stability*.

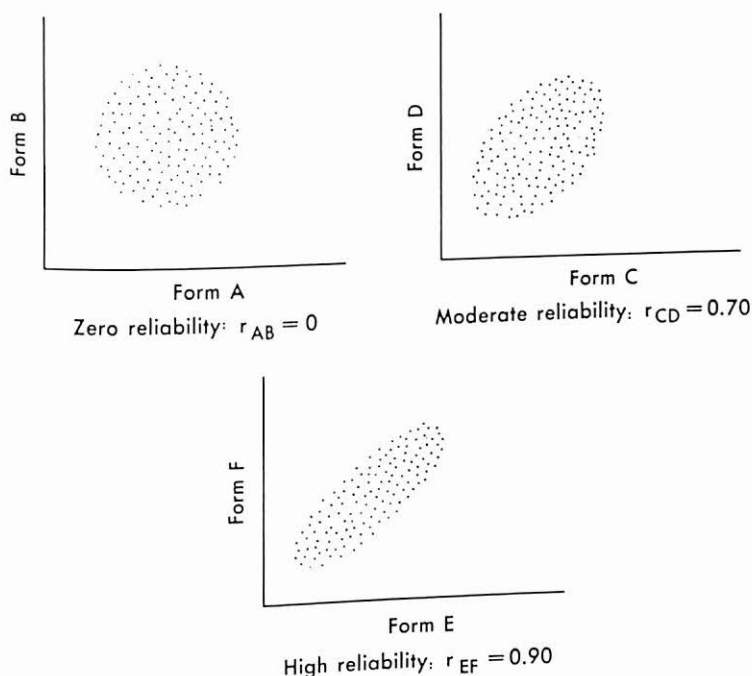


FIGURE 4.5. Diagrams showing varying degrees of reliability.

We can also consider simultaneously both fluctuations from day-to-day changes in the person and fluctuations due to the particular choice of items in the test. An index which shows the extent to which the test (and its equivalent form) measures stable individual differences is called a *coefficient of stability and equivalence*. To obtain an estimate of this coefficient the two forms are administered to the same pupils on two different occasions where there has been no opportunity between testings for them to increase their knowledge of the material. The correlation

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between these two sets of scores is taken as the desired estimate.

Which method of estimating the amount of error in test scores is most suitable depends upon the situation. If we wish to consider that day-to-day variation is a source of errors (as in a measure of "intelligence," which is assumed to be constant), we will use a coefficient of stability or stability and equivalence. If we wish to consider day-to-day fluctuations as part of the "true" score, a coefficient of equivalence is used.

Effect of length of test on reliability

1	.....
2	.....
3	.....
4	.....
5	.....
6	.....
7	.....
8	.....
9	.....
10	.....

Short test of 10 items
Reliability coefficient, $r_{11} = 0.50$

1	.....	51	.....
2	.....	52	.....
3	.....	53	.....
4	.....	54	.....
5	.....	55	.....
6	.....	56	.....
7	.....	57	.....
8	.....	58	.....
9	.....	59	.....
10	.....	60	.....

Long test of 100 similar items
Reliability coefficient, $r_{11} = 0.90$

Effect of difficulty of test on reliability

Class	8B
Teacher	Miss Jones
No. of items	50
Class average	45

Very easy test of 50 items
Reliability coefficient, $r_{11} = 0.60$

Class	8B
Teacher	Miss Jones
No. of items	50
Class average	25

Moderately difficult test of 50 items
Reliability coefficient, $r_{11} = 0.85$

Class	8B
Teacher	Miss Jones
No. of items	50
Class average	10

Very difficult test of 50 items
Reliability coefficient, $r_{11} = 0.65$

Effect of homogeneity of group on test reliability

Test	MAT
Class	6A
Teacher	Miss Jones
No. of items	50
Class average	30

Test administered to 6th-graders only

Reliability coefficient, $r_{11} = 0.80$

Test	MAT
Classes	5A, 6A and 7A
Teachers	Miss D, Miss J and Miss K
No. of items	50
Class average	30

Same test administered to group of 5th-, 6th-, and 7th-graders

Reliability coefficient, $r_{11} = 0.96$

FIGURE 4-6. Effect of length of test, difficulty of test, and homogeneity of the group on test reliability.

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What standard must a test meet in order to be considered to have satisfactory reliability? No simpler answer to this question is possible, since there is no single standard of what is an adequate reliability coefficient. The reliability desired is the highest we can get. The answer depends upon the particular purpose in mind. As a rough rule-of-thumb guide, a reliability coefficient of at least .50 is commonly considered desirable for determining the status of a school class in some subjects, while one around .90 is desirable for differentiating between individuals in the same subject. Short tests which are typically less reliable are often valuable for screening purposes or making tentative judgments.

Reliability coefficients are influenced by such factors as the length of the test, its difficulty, and the homogeneity of the pupils tested. In general, long tests are more reliable than short tests. A test which is either too easy or too hard will, in general, have lower reliability than one of the same length which is of appropriate difficulty level for the group. Another factor of great importance in determining the size of a reliability coefficient is the homogeneity of the group tested. The reliability coefficient of a test will be higher when administered to pupils who vary greatly in their ability in the subject tested than when administered to pupils of more nearly equal ability.

What test scores mean

Suppose Johnny obtained a score of 40 on a standardized arithmetic test. What does this score mean? Just what information does it convey? The score might be a percentage, but unless you knew how difficult the test was and the scores of other people with certain amounts of training, the percentage would be relatively meaningless. As an absurd illustration, consider the following spelling tests:

<i>Test A</i>		<i>Test B</i>	
dog	the	ricochet	naphtha
sit		simultaneous	supplementary
boy	fat	insignia	

It would be nonsense to infer that 40 per cent on Test A was the equivalent of 40 per cent on Test B.

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The 40 might be a *raw* score, in which case it would convey even less meaning. You wouldn't know whether this represented 40 items right out of 80 or 40 out of 40. Nor would you know whether these were very difficult or very easy items. In order to interpret any test score or observation some frame of reference is necessary.

The authors of most tests provide information for interpreting a raw score in relation to "normal" performance. These conversion tables are based on scores of a norm or standardization group. A raw score can be given meaning only by referring it to the performance of some group or groups of subjects. A score is not high or low, good or bad. It is higher or lower, better or worse. There are two widely used methods for relating a person's score to a more general framework. One is to compare his score with a graduated series of groups and see which one he matches. When the groups used are particular school grades or chronological age groups we have grade norms or age norms. Grade norms represent the average performance of children in each of a series of grades. Age norms represent the average performance of children of each of a series of ages.

The second method is to find the pupil's position in a particular group, in terms of the per cent of the group he surpasses. The resulting types of norms are called percentile norms.

Now let us consider some of the commonly used scoring systems. Age norms can be prepared for any trait which shows a progressive change with age. A person making a score equivalent to the average performance of a typical age group is assigned a score corresponding to the age of the group. For example, the average score made on a specific test by a typical group of 7-year-olds at the beginning of the year is assigned a score of 7.0. Individual pupils are given an age score of 7.0 if they obtain a raw score on the test equal to this *average* raw score. The average raw score made by a typical group of 8-year-olds is assigned a value of 8.0. Similar values are assigned for other such age groups. Intermediate scores are usually determined by interpolation. For example, an age norm of 7.5 represents the average performance of children who are 7 years and 6 months.

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The age framework is relatively simple and familiar. "He is as big as a 12-year-old" is a relatively common way of describing a child. Age norms do have some serious limitations. It is not reasonable to believe that age units are comparable throughout the scale. For example, growth in height is not the same between ages 5 and 6, as it is between 11 and 12. Also, man eventually reaches an age where no additional increase in height takes place. However, age norms are useful for the elementary school years and for abilities that grow as part of the general development of the pupil.

Grade norms are very similar to and have many of the same characteristics as age norms. The difference is that the test is given to representative groups in each of a series of school grades, and the norm is defined as the average performance of the pupils within a grade. For example, the average score made on a specific test by a typical sixth-grade group at the beginning of the school year is assigned a value of 6.0. Pupils are given a grade score of 6.0 if they obtain this average raw score. The average raw score made by a typical seventh-grade group at the beginning of the school year is assigned a value of 7.0 and similar values are assigned for other grades in the same manner. Intermediate values are usually determined by interpolation. For example, a grade norm of 6.5 represents the average performance of a typical group of sixth-grade pupils who are halfway through grade six.

If a fourth-grade child obtains a grade score of 7.0, we cannot say that he has necessarily mastered the arithmetic taught in the sixth grade. He obtains a score as high as that obtained by the average child at the beginning of the seventh grade, but may have done so by very superior performance on the items which are fifth-grade and below. The fact that a child has a grade equivalent of 6.9 need not mean that he is almost ready to do seventh-grade work. More information is needed before drawing such a conclusion.

Although age and grade norms give a particular type of meaning to a pupil's test score, it is sometimes also useful to use percentile norms. An individual's position in his group can be estimated by a statement of the percentage of the group he

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TABLE 4-1. Some raw scores and corresponding grade equivalents in paragraph meaning taken from the *Stanford Achievement Test, Advanced Battery*, Form N.*

<i>Number Right</i>	<i>Grade Equivalent</i>	<i>Number Right</i>	<i>Grade Equivalent</i>
1	1.8	18	5.2
2	1.9	19	5.4
3	2.1	20	5.7
4	2.2	21	5.9
5	2.4	22	6.2
6	2.6	23	6.5
7	2.8	24	6.7
8	2.9	25	7.0
9	3.1	26	7.3
10	3.3	27	7.7
11	3.5	28	8.0
12	3.8	29	8.3
13	4.0	30	8.7
14	4.2	31	9.1
15	4.5	32	9.5
16	4.7	33	10.0
17	5.0		

* World Book Co., 1953. With permission of the publisher.

exceeds in a given trait. For example, if Sam's weight exceeds that of exactly 30 per cent of his classmates, Sam's weight would be at the 30th percentile, and Sam would have a percentile rank of 30.

Percentile norms are very widely used and applicable to many situations. They can be used whenever there is an appropriate normative group to serve as a yardstick. To be better than 80 or 90 per cent of the reference group indicates a certain degree of excellence. This is true whether we are concerned with reading Greek or running the 50-yard dash.

The appropriate norm group is in every case the group to which the individual belongs and in terms of which his status is to be evaluated. Percentile norms require, in general, many distinct groups depending upon the type of group and type of situation for which the test is to be used. It would be of little value to

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compare the academic potential of college juniors with norms based on unselected adults.

All of these ways of establishing norms are commonly used. The particular choice of scale is arbitrary and a matter of convenience.

Collating information and evaluating potentials for growth

Information obtained by the methods just described must be brought together and interrelated in some fashion. One procedure is to make a case study of a pupil. This is a broad investigation of the pupil's family history, home environment, medical history, school record, test scores, social environment, and personal reactions. Such a study is usually made in the attempt to discover which factors are relevant to the pupil's maladjustment. Typically, only pupils with serious problems warrant a thorough case study by one or more of the following experts: a psychologist, psychiatrist, social case worker, and of course the teacher. However, the cumulative records of a school often approximate the completeness of case studies. Many factors related to a pupil's adjustment are brought together in them. Consistent patterns of behavior can be recognized from a careful study of all information, if sufficient information has been gathered.

As an example, the information related to Tommy's experiences could be integrated to help eliminate a serious difficulty he

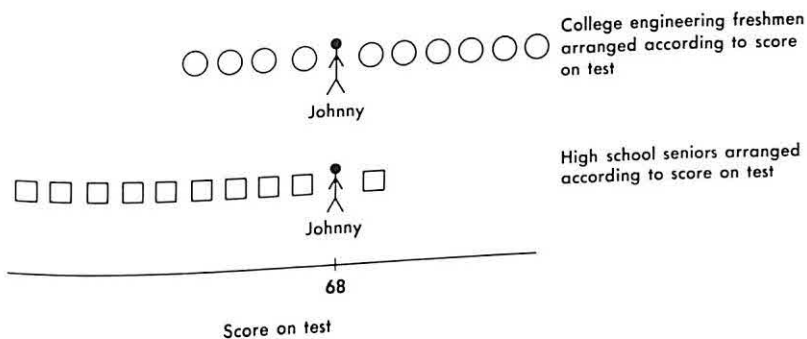


FIGURE 4.7. Johnny's raw score of 68 on a mathematics test gives him a percentile rank of 90 when high school seniors constitute the normative group and a percentile rank of 40 when the normative group consists of college engineering freshmen.

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was making for Miss K—, his teacher. Tommy, a fifth-grader, was becoming a classroom problem. In spite of extra assignments, he had too much time for “fooling around.” This was becoming such a habit as to interfere with the quality of his work. Miss K— thought that he might do better in the sixth grade where the work would be more challenging. However, she was unwilling to make such a recommendation without additional information. She gathered and recorded the following data on Tommy:

Tommy was 9 years and 11 months old, one of the younger students in his class. His marks at the end of the fourth-grade had been “A” in core subjects (reading, English, citizenship education, geography), and in science, arithmetic, and music. He received a “B” in art and “satisfactory” in physical education. On a group intelligence test administered at the end of the fourth-grade he had obtained an IQ of 135. This meant that only about 2 per cent of his age group had higher IQ’s. Miss K— wondered whether the group intelligence test score was reliable, so she asked the school psychologist to administer the *Stanford-Binet Individual Intelligence Test* to Tommy. On this test he obtained an IQ of 144 (mental age of 14 years and 3 months). The school psychologist interpreted this to mean that Tommy had sufficient intellectual ability to handle the sixth-grade work without difficulty.

At this point Miss K— consulted the elementary supervisor and asked whether the work he would miss if promoted would hurt Tommy’s chances of achievement at the sixth-grade level or at some later time. The supervisor pointed out that Tommy was already doing work at the sixth-grade level and could easily cover the material missed with a little special help. In science, Tommy played a leading role in his class, working on projects at home and bringing them to show the rest of his class. He was reading at the eighth-grade level and doing outstanding work in the other core subjects. In arithmetic, he did excellent work but appeared rather bored.

Although Miss K— realized that there were other important issues which she had not explored, she felt that Tommy might profit considerably by being accelerated.

At this point she presented the available information about Tommy to the principal and suggested that Tommy be moved up to the sixth-grade as a possible solution to his problems. The principal invited the parents to a conference in order to find out how they would feel about Tommy’s being accelerated. They were pleased that he was doing so well in school that “skipping fifth-grade” was

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being considered. They mentioned that they had tried to "push him along," since they had been aware of his superior learning ability. Although Tommy's parents were agreeable to the possibility of his "skipping a grade," they realized that the school specialists were in the best position to make a final decision. They would accept the school's decision.

The principal felt that there was still not enough information to make a decision, so he arranged a conference bringing together Tommy's teachers, the school psychologist, school nurse, and the elementary supervisor. After weighing all the evidence the principal recommended that Tommy be placed in the sixth-grade for a probationary period and that he be given extra work to help him cover the topics he would miss in arithmetic. The school psychologist was also instructed to check periodically to determine whether Tommy was adjusting to the new group both personally and socially.

Decisions such as this one about Tommy are tremendously important. They should be based on the best information that can be obtained. Many school problems are even more complex and require considerably more information and interpretation. Hence it is desirable for the up-to-date teacher to have considerable knowledge of a wide variety of testing and data-gathering procedures.

CHAPTER 5

Appraising Scholastic Achievements

SCHOLASTIC ACHIEVEMENT in subject-matter content is one of the primary responsibilities of schools and teachers. The three R's of reading, writing, and arithmetic have been cardinal objectives of our schools since the beginnings of formal education (5). They are the hallmarks of civilized man, the essential tool skills, and are the very foundation of self-educative efforts. One of the teacher's responsibilities is to determine the pupil's progress in each of these areas. Deficiencies in these subjects may account for inadequacies in future learning and may result in an inability to perform the functions of a good parent and citizen—keeping informed about public affairs by reading newspapers, managing personal accounts and the like. These skills are also needed to be successful in most vocations.

The school is also charged with providing adequate instruction in various other content areas. Knowledge and understanding of history, geography, government, science, shop, art, and foreign language are some of the subjects in nearly all school curricula. Since the school takes the responsibility for providing such instruction, it follows that the school is obligated to evaluate pupil proficiency and growth.

The art of examining and obtaining information about student achievement is an ancient one. Oral quizzing has been a part

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of the daily classroom routine from time immemorial. Although written examinations are more recent than oral testing, they also have a long history. They were firmly established in the educational system of China thirteen hundred years ago, and were familiar to Grecian and Roman teachers.



FIGURE 5-1. A single question does not give a pupil a reasonable chance to show what he or she knows.

In America, written examinations are as old as formal education itself. As early as 1845, Horace Mann (7) formulated a clean-cut concept of the written examination and expounded in detail its superiority over older methods such as the oral quiz which was more popular at the time. In writing about the advantages of the use of written examinations in a school survey in Boston in 1845 he said:¹

... it submits the *same* question not only to all the scholars who are to be examined, in the same school, but to all the schools of the same class or grade. Scholars in the same school, therefore, can be equitably compared with each other; and all the different schools are subjected to a measurement by the same standard. Take the

¹ H. Mann. Boston grammar and writing schools. Extracts from report of committee. *The common sch. J.*, 1845, 7, 330-331.

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best school committee man who ever exposed the nakedness of ignorance, or detected fraud, or exploded the bubbles of pretention, and let him examine a class orally, and he cannot approach exactness, in judging of the *relative* merits of the pupils, by any very close approximation. And the reason is apparent. He must propound different questions to different scholars; and it is impossible that these questions should be equal, in point of ease or difficulty. A poor scholar may be asked a very easy question, and answer it. A good scholar may be asked a very difficult one, and miss it. In some cases, a succeeding scholar may profit by the mistakes of a preceding one; so that, if there had been a different arrangement of their seats, the record would have borne a different result of *plus* and *minus*. The examiner may prepare himself beforehand as carefully as he pleases, and mark out the precise path he intends to pursue, and yet, in spite of himself, he may be thrown out of his course by unforeseen circumstances. But when the questions are the same, there is exactness of equality. Balances cannot weigh out the work more justly. So far as the examination is concerned, all the scholars are "born free and equal."

Suppose a race were to be run by twenty men, in order to determine their comparative fleetness; but instead of bringing them upon the same course, where they should all stand abreast and start abreast, one of them should be selected to run one mile, and then a second, starting where the first one stopped, should run another mile, and so on until the whole had entered the lists; might it not, and would it not so happen that one would have the luck of running up hill, and another down; that one would run over a good turnpike and another over a "corduroy?" Pupils required to answer dissimilar questions, are like runners obliged to test their speed by running on dissimilar courses.

Again, it is clear that the larger the number of questions put to a scholar, the better is the opportunity to test his merits. If but a single question be put, the best scholar in the school may miss it, though he would answer the next twenty without a blunder; or the poorest scholar may succeed in answering one question, though certain to fail in twenty others. Each question is a partial test, and the greater the number of questions, therefore, the nearer does the test approach to completeness. It is very uncertain which face of a die will be turned up at the first throw; but if the dice are thrown all day, there will be a great equality in the number of the different faces turned up.

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. . . Suppose, under the form of oral examination, an hour is assigned to a class of thirty pupils,—this gives two minutes apiece. But under the late mode of examination [the uniform written examination], we have the paradox, that an hour for thirty is sixty minutes apiece. Now it often happens that a sterling scholar is modest, diffident, and easily disconcerted under new circumstances. Such a pupil requires time to collect his faculties. Give him this, and he will not disappoint his best friends. Debar him from this, and a forth-putting, self-esteeming competitor may surpass him. In an exercise of two minutes, therefore, the best scholar may fail, because he loses his only opportunity while he is summoning his energies to improve it; but give him an hour, and he will have time to rally and do himself justice. It is one of the principal recommendations of this method, indeed, that it excludes surprise as one of the causes of failure, and takes away the simulation of it as an excuse.

. . . It sometimes happens that when an examiner has brought a pupil or a class to a test-question,—to a point that will reveal their condition as to ignorance or knowledge,—the teacher bolts out with some suggestion or leading question that defeats the whole purpose at a breath.

As we examine these ideas which were expressed over one hundred years ago by Horace Mann in support of written examinations we find that he is talking about issues which are still vital to all testing situations. They are important in the construction of essay or objective examinations whether teacher-made or standardized. We find the following propositions explicitly stated, although not necessarily worded in the same fashion.

Uniform examination questions should be presented to all students under the same conditions. Such examinations when administered to a group are more economical of time than oral or individually administered examinations. Examination questions differ greatly in difficulty. These variations may obscure real differences in pupils' abilities and achievements when the same questions are not administered to all. Since any examination is a limited sampling of the pupil's knowledge and skill, the larger the number of questions the fairer the test tends to be.

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Examinations should also be sufficiently long to reduce the marked chance element in success or failure on a short examination. Finally, examinations should be free of the inadvertent and very human tendency of teachers to assist pupils in their answering of questions.

The emphasis on the kind of information needed about pupils and the most appropriate methods of obtaining it have both varied over time. Oral, essay, and objective examinations have been stressed and attacked in turn. Modern emphasis on the psychology of individual differences and the attendant problems of measurement make it probable that the high esteem in which examinations are held will continue to be maintained for some time. The present trend is to make use of a variety of types of examinations to evaluate the several dimensions of pupil achievement. The use of teacher-made examinations and certain standardized tests gives the modern teacher information about her pupils which was unavailable to even the most skillful and experienced teacher in the days of Horace Mann.

Sources of information about pupil achievements

There are many ways of obtaining information about a pupil's achievements. Among them are direct observation of behavior, analysis and evaluation of creative products, interviews, recitations, and examinations. Although tests can be defined in a very broad sense as any systematic procedure for comparing the behavior of two or more persons (4), we are presently considering achievement tests in a much narrower sense. Here we conceive of an achievement test as a series of questions requiring written or oral answers. These tests may be either teacher-made or commercially available standardized tests.

Teacher-made tests

Teacher-made tests can contribute significantly to an accumulation of diagnostic and achievement information. They have the great advantage of being especially tailored to the aims and objectives of the course as defined by the teacher. For example, if there

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has been an emphasis on local occurrences in a citizenship course, the teacher can present appropriate questions in her tests.



FIGURE 5-2. The teacher thought that she had successfully taught percentage to all the members of her class. The results of her pupils on a test which included many problems on percentage showed her that she needed to do some reteaching.

The materials which a teacher emphasizes in her tests tend to be accepted by her pupils as important. The teacher may profess to both colleagues and pupils that the ability to understand basic principles is much more important than learning facts. However, if her tests ask only for names, dates, and sentences from the textbook, these will be her functional objectives and pupils will study accordingly. Tests tell much of what the teacher really values in her pupils' achievements.

Teachers customarily employ two kinds of tests: the essay and the short-answer type. The essay examination has long been popular with teachers. However, in the early 1920's, the essay examination came under attack. Studies by such pioneers in the measurement field as Starch and Elliott (8) showed that when the same set of English essay examinations was submitted to presumably competent teachers, the grades assigned to the same

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paper ranged all the way from 50 to 98 per cent. Grading in geometry (9) proved to be as inaccurate.

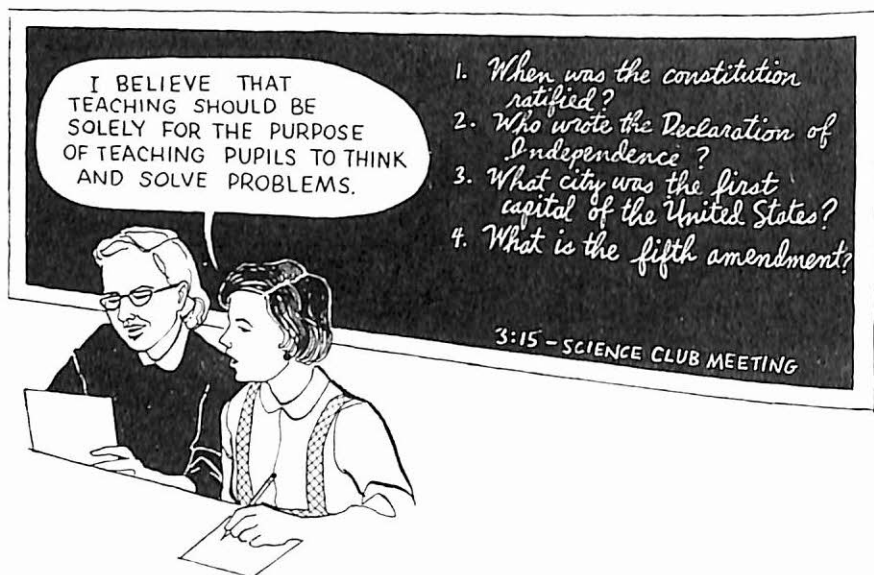


FIGURE 5-3. Tests should contain items which attempt to measure the objectives of the teacher. Pupils are likely to accept as objectives those measured by the teacher's tests, not by what she says.

These findings, along with those of many other research workers, led to a critical analysis of the essay test as an effective evaluation procedure. Research showed that the essay test could be improved. Considerable effort has been expended to help teachers construct better essay tests which can be evaluated more objectively and reliably.

Let us consider some of the characteristics of a good essay question. It should be directly relevant to an important course objective. It should be specifically focused upon the student's progress toward this objective. It should be explicit in its request for an interpretation, an application, or an answer. Questions should be so worded that the student knows the precise requirements. Prior to the administration of the essay test, the teacher should herself block out a framework of possible answers to her questions. These can be used to make the scoring relatively objective and uniform. Items are most effective if the student is told

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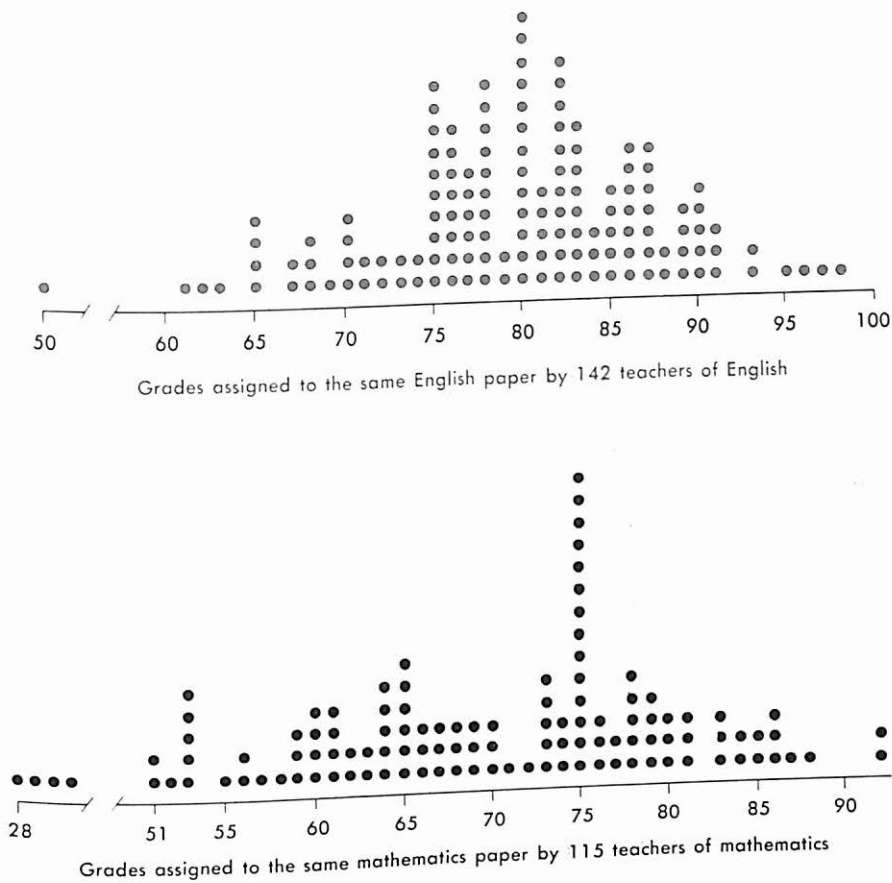


FIGURE 5-4. The top diagram shows the marks in percentage assigned to the same English paper by 142 teachers of English. The bottom figure indicates that 115 teachers of high school mathematics do not agree in their grading any better than did the English teachers. (Adapted from D. Starch and E. C. Elliott. Reliability of grading high school work in english. *Sch. Rev.*, 1912, 20, 442-457 and D. Starch and E. C. Elliott. Reliability of grading work in mathematics. *Sch. Rev.*, 1913, 21, 254-257. With permission of authors and publisher.)

the purpose of the test, the desired objectives, what sort of answers will be rated highest, and what proportion of his time the pupil should allot to each question in the test. The first question below is an example of a poor essay question. The second illustrates a better one.

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1. Compare the Greeks and the Romans.
2. Show how each of the following has been a factor in the development of democracy in the United States:
 - (1) The characteristics of life on the western frontier.
 - (2) The public schools.
 - (3) Newspapers and periodicals.

As a countermeasure against the weaknesses of the essay form of examination, professional test-makers in the early 1920's developed and offered short-answer or objective type tests. Numerous tests using true-false, multiple choice, and matching items were published. These were not only used widely but in a short time many teachers began to construct and use similar tests. Objective tests have certain obvious advantages in the classroom. They permit greater objectivity in scoring, they sample the course content more extensively, and they have a high reliability per unit of examination time. The construction of good objective items is time consuming, however, and requires considerable skill and knowledge (10).

Below are some examples of poor objective items that have been improved by slight modification:²

1. The following item would be considerably less confusing to pupils if the *stem* were rewritten along the lines indicated:

(*Poor*) The great circle, one-half of which is the Greenwich Meridian, is on the other side of the

- (1) International Date Line
- (2) Equator
- (3) Tropic of Cancer
- (4) Tropic of Capricorn

(*Improved*) The Greenwich Meridian is one-half of a great circle. What do we call the other half?

- (1) International Date Line
- (2) Equator
- (3) Tropic of Cancer
- (4) Tropic of Capricorn

² From a manual prepared by S. N. Tinkleman. *Improving the classroom test: a manual of test construction procedure for the classroom teacher*. Albany: University of the State of New York, 1957. With permission of author and publisher.

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2. In the illustration below "writer" is a possible correct answer not intended by the question author. The item is improved by "spoiling" this response so that it is definitely incorrect.

(*Poor*) H. L. Mencken has achieved his greatest fame as a
(1) writer (2) biographer of Abraham Lincoln (3) poet
(4) psychologist (5) student of the American language

(*Improved*) H. L. Mencken has achieved his greatest fame as a
(1) writer of popular novels

3. In the following illustration, the alternatives contain material that may well be incorporated into the stem.

(*Poor*) Milk can be pasteurized at home by

- (1) heating it to a temperature of 130°
(2) heating it to a temperature of 145°
(3)

(*Improved*) Milk can be pasteurized at home by heating it to a temperature of (1) 130° (2) 145° (3)

Standardized achievement tests

As just discussed, some teacher-made tests consist of brief, specific questions. These "objective" or short-answer tests reduce the possibility of unreliable grading. When skillfully constructed and standardized on representative groups of pupils in the local school, they are effective instruments for obtaining information about the growth and development of each individual pupil. In fact, if the requirements of scientific construction and adequate standardization are met, the teacher-made test may be more effective for some purposes than the commercially published achievement tests.

Although commercially available tests are made up of the same types of items and cover many of the same areas of knowledge as many teacher-made tests, there are many ways in which they differ. There are five main differences between them. Standardized tests are based upon content and objectives common to many schools throughout the country, whereas the teacher's test is usually adapted to her course-content and objectives. They usually deal with large segments of knowledge or skills, whereas the teacher-made test can be prepared on more limited topics.

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The commercially available test is developed with the aid of professional writers, reviewers, editors of test items, and statisticians, whereas the teacher-made test usually rests upon the skills of one or two teachers. Norms for various groups that are broadly representative of performance throughout the country (e.g. national norms) characterize the standardized test, whereas the teacher-made test lacks this external frame of reference. The commercially standardized test usually appears in two or more comparable forms, whereas the teacher-made test is rarely constructed with more than a single form.

The use of standardized achievement tests, which are commercially available, results in a considerable saving of teacher time and provides her with extremely valuable information. For example, in teacher-made tests there is no way to compare pupils in the local school with boys and girls at corresponding academic levels in other schools.

Let us consider an example that illustrates this latter advantage of the commercial achievement test. Sam came from a nearby community and John from the local eighth-grade. When they both entered the same ninth-grade algebra class the teacher, in examining their records, discovered that John had an eighth-grade class average of 90 in arithmetic while Sam had an average of only 77. After a week in which a series of arithmetic tests were given it became clear that Sam knew much more about arithmetic than John. They had apparently been given different kinds of teacher-made examinations or had been graded on very different standards. If they had been given a common standardized achievement test in arithmetic in their respective schools, this confusion could have been avoided. If the algebra teacher had attempted to section the group on the basis of their marks she would have misplaced both John and Sam.

It is desirable for many purposes to have comparable forms of a test. Alternate forms are needed for accurately measuring growth. Standardized tests, with carefully constructed comparable forms and a broad frame of reference for interpretation (such as national norms), are valuable tools for gathering information about pupil achievement.

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There are standardized achievement tests available in almost every area of the curriculum. They are available at almost every grade level from kindergarten through grade 12. Where can a teacher turn to obtain information about standardized tests? The three best sources for the average classroom teacher are Buros' *Mental measurements yearbook* (1, 2, 3), catalogues of commercial publishers, and "Specimen Sets" (each of which contains a copy of a given test and its manual).

Buros' *Yearbooks* list and critically review each new standardized test which is published. A complete index and detailed directory section make it easy to locate information about a particular test or to determine what standardized tests are available in different subject-matter areas. The *Yearbooks* also include much factual material about the tests which a potential user is likely to need—such things as author, publisher, publication date, cost, time required to administer, grades for which suitable, number of forms available and the like.

The most up-to-date information on standardized achievement tests can be obtained from the publishers themselves, either through correspondence or through their catalogues. Naturally it is not reasonable to suppose that test publishers are completely unbiased sources on the value and limitations of their own tests. However, they are helpful as sources of information.

When a teacher becomes interested in a particular test she should study the contents of the test itself and the accompanying manual. In fact, the teacher can learn a great deal about the test by administering it to herself, following the directions as carefully as though she were administering it to a class. "Specimen Sets" containing a copy of the test, instructions for administering and scoring, and supplementary materials on norms and interpretation are sold at a nominal price by the publisher. Many publishers refuse to distribute tests if the prospective purchaser does not give evidence that she has the necessary professional skills and background to use the materials properly. A letter on the official stationery of the school or a note from a professor at the university where the teacher is studying will often suffice.

The *manual* which provides detailed information about the

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use and interpretation of the test should be studied carefully. Manuals differ greatly. Unfortunately, a few of them are primarily promotional devices to increase the sales of the test. The teacher should concentrate on the *evidence* presented in the manual and examine claims made in the light of this evidence. Since there is often an inverse relationship between the magnitude of the claims and the evidence, a teacher may well be suspicious of the test whose manual makes dramatic claims but presents very few supporting data.



FIGURE 5-5. The best way for a teacher to understand the value of a particular standardized test is to administer it to herself.

Achievement tests are often organized into batteries covering various skills and areas of academic knowledge. Since the normative data for each subtest in the battery are obtained from the same sample of subjects, it is possible to make comparisons of a pupil's performance on the different parts. The content areas included, the emphasis on work-study skills, and the relative emphasis on the various basic skill areas vary somewhat from test to test. Certain of them are also published as individual tests or in smaller battery groupings. A few samples of items from a widely used achievement test battery are presented in Figure 5-6 and Figure 5-7.

DIRECTIONS: In each exercise decide which of the four numbered words will complete the sentence best. Look at the number of this word. Mark the answer space at the right which is numbered the same as the word you have chosen. Study the samples.

SAMPLES:

- 21 The day that comes after Friday is — 1 Monday 2 Tuesday 3 Saturday 4 Sunday 1 2 3 4
- 22 To draw on a blackboard, use a piece of — 5 pencil 6 straw 7 eraser 8 chalk 5 6 7 8
- 23 To search for something means to — 1 hide it 2 find it 3 lose it 4 look for it 1 2 3 4
- 24 An army is led by a — 5 mayor 6 priest 7 president 8 general 5 6 7 8

TEST 8 Science

20

DIRECTIONS: Choose the best answer for each exercise and mark the answer space which is numbered the same as your choice.

- 1 An insect most harmful to wooden buildings is the — 1 moth 2 mosquito 3 wasp 4 termite 1 2 3 4
- 2 Growing boys and girls have the least need for — 5 milk 6 fruit 7 soda pop 8 vegetables 5 6 7 8
- 3 A skull with crossed bones under it is the sign of a —
1 salve 2 disinfectant 3 laxative 4 poison 1 2 3 4
- 4 A bird that is soaring and gliding is using — 5 air currents 6 sunlight 7 fog 8 sound waves 5 6 7 8
- 5 A "catching" disease is — 1 rheumatism 2 the common cold 3 heart trouble 4 hives 1 2 3 4
- 6 Insulation is used in the sides of most — 5 cans 6 ovens 7 wagons 8 pans 5 6 7 8
- 7 Vigorous exercise right after a meal is unwise because — 1 it interferes with digestion
2 it makes one too sleepy 3 it makes one nervous 4 it makes it harder to breathe 1 2 3 4

TEST 5 Arithmetic Reasoning (Continued) PART II

13

DIRECTIONS: The answer to each of these examples can be thought out without doing any figuring on paper. You are to think out the answer and mark the answer space which is lettered the same as your choice.

- 27 Jack bought s stamps. He gave n to his sister. How many stamps did he have left?
 a sn b $\frac{s}{n}$ c $s - n$ d $s + n$ a b c d
- 28 By estimation, choose the example which will have the largest product.
 e 38.6 f 38.6 g 3.86 h 386
 4.5 45 45 45 e f g h
- 29 5% of something is — a $\frac{5}{100}$ of it b $\frac{1}{4}$ of it c 5 times it d $\frac{5}{15}$ of it a b c d

FIGURE 5-6. Some items in several of the academic areas taken from the *Stanford Achievement Tests*. (World Book Co., 1953. With permission.)

TEST 9 Study Skills PART II. MAP READING

23

DIRECTIONS: On this page there are some maps with the usual symbols, but they are not maps of real places. Read an exercise and then find the answer from the map. Mark the answer space which is lettered the same as your choice.

- Use Map 1 in answering questions 16-25.
- 16 A town not on a railroad is —
 a Barr b Brook c Troy d White a b c d
- 17 A town located on both a railroad and a river is —
 e Arrow f Wilson g Dale h Pitt e f g h
- 18 A town located at a railroad junction is —
 a Wilson b Arrow c Pitt d Dale a b c d
- 19 The largest city is —
 e Dale f Pitt g Troy h White e f g h
- 20 The town farthest up the Grand River Valley is —
 a Brook b White c Pitt d Dale a b c d
- 21 A town located nearest latitude 41° is —
 e Barr f Troy g White h Pitt e f g h
- 22 The section of this area which has no railroad is the —
 a northeast b northwest c southeast d southwest a b c d
- 23 The distance by air from Dale to Wilson is about —
 e 60 mi. f 100 mi. g 150 mi. h 200 mi. e f g h
- 24 Grand River Valley is about how wide?
 a 60 mi. b 100 mi. c 125 mi. d 150 mi. a b c d
- 25 Grand River flows — e northeast
 f northwest g southeast h southwest e f g h

FIGURE 5-7. Some items taken from the *Study Skills Test* of the *Stanford Achievement Tests*. (World Book Co., 1953. With permission.)

UNDERSTANDING INDIVIDUAL PUPILS

Use of achievement tests in diagnosis

A diagnostic test is designed to provide a picture of a pupil's strengths and weaknesses. Hence, any test that yields more than a single over-all score serves this purpose. Even if there are only two part scores (for example, arithmetic computation and arithmetic reasoning), the test results make it possible to say that a pupil performed better in one area than in the other. This information provides a general diagnostic cue. Other tests are designed to provide a more detailed type of diagnosis.

To illustrate the use of tests in diagnosis let us consider the case of Jane, a seventh-grader. Late in the spring she reported at home that she hated school and especially arithmetic. This announcement came as a surprise to her parents, since she had a high IQ and had always been a good student. Arithmetic was one of her favorite subjects. An examination of her scores on the *Metropolitan Achievement Test* which she had just taken showed that she was well above the norm in reading, vocabulary, and, in fact, all subjects except arithmetic. She was slightly above the norm in arithmetic reasoning and slightly below in arithmetic computation. The previous year she had been two grades above the norm on both tests. The information supplied by this achievement test battery is diagnostic at a very general level. Her arithmetic performance, although about average, had dropped relative to her previous year's performance and relative to work in other subjects.

A diagnostic arithmetic test containing many items on different computational procedures was administered to her in order to obtain more information about her difficulty. On this test she did reasonably well but showed an inconsistent performance on items involving fractions and decimals.

A still more detailed diagnostic attempt was then made by the teacher. She asked Jane to "think out loud" while doing some additional problems on fractions and decimals. Her errors and thought processes were recorded systematically. The teacher discovered that Jane apparently did not understand the role of the denominator in working with fractions. She also showed little

APPRAISING SCHOLASTIC ACHIEVEMENTS

understanding of the processes involving the use and manipulation of the decimal point. Remedial work in fractions and decimals was undertaken. The success Jane experienced in arithmetic after overcoming her deficiencies had a good effect on her general attitude toward school.

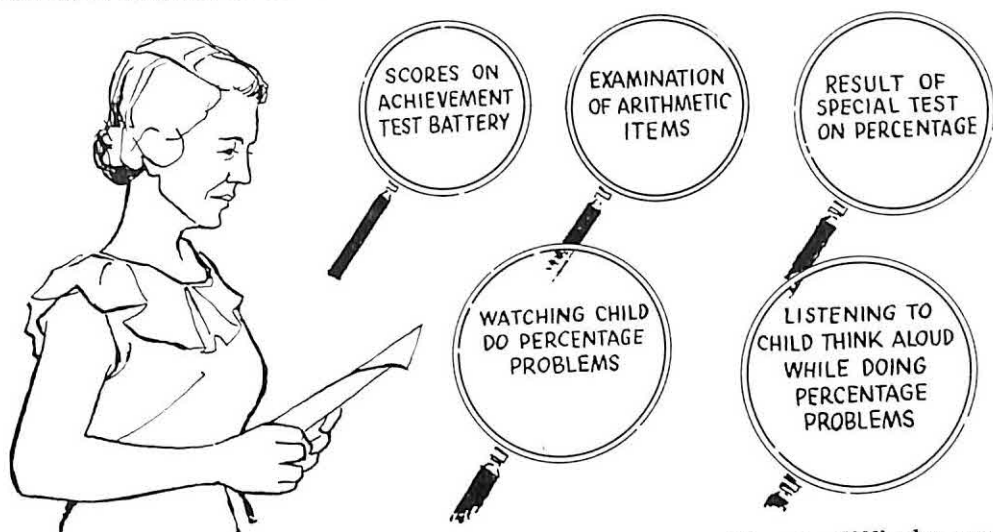


FIGURE 5-8. Successful diagnosis of an arithmetic difficulty may require several steps.

In general, diagnostic test results must be interpreted with caution. Each step in diagnosing academic difficulties provides information from which the teacher may obtain some tentative suggestions as to the individual's strengths and weaknesses. Possible solutions should be clearly recognized as *tentative* hypotheses. If the remedial activities are successful, well and good. If not, the teacher must be ready to review what she has done and explore other leads. It is most helpful to think of diagnostic test results as suggestions, rather than commands.

At the present time there are few standardized diagnostic tests outside the fields of reading and arithmetic. Hence, diagnosis must usually be made with tests developed by the teacher or through personal interviews with the pupil. Although diagnosis is one of the teacher's most important functions, each diagnosis should be made with care and much tentativeness. Faulty diagnosis may lead to even more serious problems.

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Effective use of achievement information

Achievement information is of little value unless reliably obtained with valid tests and then effectively utilized. The desirable operations can be conceptualized in four steps.

Select a reliable and valid test. If a standardized test cannot be found for the purpose in mind or if material supplemental to the standardized test is needed, construct your own. Be concerned that whatever test you use calls for those behaviors related to your objectives. Try to use tests that are reliable. (Reliability coefficients should be in the high 80's or low 90's.) Other things being equal, the higher the reliability the better.

Administer the test under favorable conditions. The test room should be a quiet one with good lighting facilities. Follow the directions explicitly, especially with respect to such things as timing and parts to be read verbatim.

Use the results to diagnose the difficulties of individual pupils. Take remedial steps and then reappraise the pupil's achievement status. If the desired results have not been achieved, continue to obtain information, make additional diagnoses and try new remedial steps.

Keep intelligible and systematic records of pupil performance to transmit to future teachers. The most extensive testing program is worthless unless the results are in a readily available form that can be used to the pupil's advantage.

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Measuring Intelligence and Other Aptitudes

THERE ARE numerous available tests to measure intelligence and other aptitudes. The following kinds of questions, frequently raised by parents and teachers, reflect the interest most people have in intelligence and its measurement. "What is an intelligence test?" "How is it possible to measure intelligence?" "What does an IQ of 140 mean?" "How much confidence can you have in an IQ?" "Does the child have special aptitudes?" "Can we tell whether a sixth-grade child has enough 'brains' to go to college when he grows up?" "Are the children in your class achieving up to their ability?"

This last question is one of special concern to teachers. If we accept the assumption that aptitude and achievement need not be perfectly correlated (and there are many data to support this) the teacher needs to know whether low achievement is due to low aptitude, over which she has little control, or due to other factors such as low motivation and inferior instructional procedures about which she may be able to take more direct steps. Aptitude is used here to mean ability to learn. Aptitude measures permit prediction of future learning or development. For example, Miss J— noticed that Sam was extremely low in all areas of academic achievement but appeared bright in other ways. She wondered whether he was actually as bright as she thought or whether he

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was unable to learn as easily as other members of the class. Was he an "under-achiever?" Miss J—'s problem is an old one in education. In his effort to obtain an answer to this problem, Alfred Binet, a French psychologist, produced the first practical test of mental ability or aptitude.

French educators responsible for the Paris public schools were concerned about their many nonlearners. They decided to move the hopelessly backward pupils to schools where they would not be held to the standard curriculum. Aware of the many errors in teacher judgment, they wished to avoid segregating under-achievers of good intellectual potential who could learn if properly motivated. They also wished to identify intellectually dull pupils from good families whom the teacher might be reluctant to rate low, and on the other hand the dull pupils with pleasant personalities whom the teacher might unconsciously favor. Binet was commissioned to produce a psychometric method for separating the genuinely dull from those with an adequate aptitude for formal education.

Binet was successful in developing an objective test which was welcomed enthusiastically as a tool for identifying intellectually retarded children. Lewis M. Terman of Stanford University administered slight variations of the Binet tests to American pupils. In 1916 he published the *Stanford Revision of the Binet Scale* (12) which extended its application to intellectually normal and superior children. The immediate and continuing usefulness of the *Stanford-Binet Test* has made it a yardstick by which most new intelligence tests are judged. The acceptance and popularity of the *Stanford-Binet* is mainly due to the care with which it was prepared, its success in testing complex mental functions, its use of the relatively easily understood IQ, and its quick application in practical situations. The 1937 *Revision of the Stanford-Binet* is used in our schools today. Special skills and training such as are usually possessed by guidance counselors and school psychologists are required to administer and interpret this test of intellectual aptitude.

The changes in individual intelligence tests since 1916 have been relatively minor. In general, present-day intelligence testing

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in America is traceable in form and concept to the original *Stanford-Binet*.

Shortly after the appearance of the *Stanford-Binet*, group intelligence tests were developed. World War I gave group intelligence testing its main impetus. When it became necessary to expand our armed services quickly and efficiently, psychologists were asked to develop a *group* test of intellectual aptitude for inductees. Information was needed which would permit the selection of the most promising candidates for officer training, the rejection of the unfit, and the appropriate classification of others. Terman, Yerkes, and Bingham, using test items constructed previously by Arthur Otis, assembled a test which became the famous *Army Alpha*. It was a practical test, easily administered and highly useful to the armed services. Figure 6-1 shows the Alpha scores of Army personnel of various ranks in World War I.

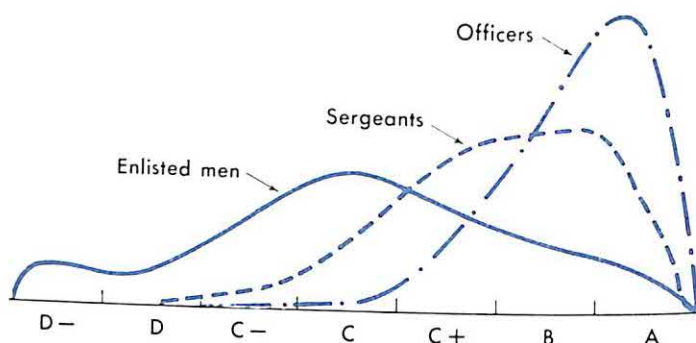


FIGURE 6-1. Alpha scores of Army personnel of various kinds in World War I. Note that the higher ranks score higher on *Army Alpha*. (From Clarence S. Yoakum and Robert M. Yerkes. *Army mental tests*. C. H. Stoelting Co., 1920. With permission.)

The effective use of *Army Alpha* provided convincing evidence that adequate prediction of human success could be made with the proper instruments in a mass processing situation. Schools and industry became enthusiastic about tests of this type. *Army Alpha* in a civilian revision, and similar group tests developed by Otis and others, were widely used. The group intelligence tests being published today and the *Army General Classification Test* used in World War II differ only slightly from those of the 1920 period. The newer tests are generally more reliable and have more ade-

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quate norms. Group intelligence tests are still widely used in the schools and it is probable that some time in the future you will be asked to administer one to your pupils.

Rationale underlying intelligence and other aptitude tests

A useful and straightforward definition of aptitude is *potential for achievement*. It cannot be measured directly. Knowledge of aptitudes is always based on inferences. What we know and infer about an individual is dependent upon his observable behaviors. We cannot, by some mysterious procedure, penetrate his mind to determine how he thinks and feels, how much he knows, and how he will be able to handle new situations as they arise. Judgments must be based on either something he says or does.

The logic underlying the construction of intelligence tests assumes that with equivalent opportunity the more intelligent person will learn more from what he has experienced. He will be able to use past experiences more effectively in solving problems, sensing relationships, and in performing other types of intellectual tasks. Thus, if two persons live in similar environments for the same length of time, it is possible to infer which is the brighter by asking them the same questions about the things they have probably experienced. The one who gives a larger number of "correct" answers is judged to be the more intelligent.

The test items for measuring intellectual aptitude are selected in a number of ways. Binet and Terman used many vocabulary and reasoning items. Since much of what a child is required to do in school involves vocabulary and reasoning, it is not surprising that, in general, a child who shows a high level of verbal and reasoning facility on the *Stanford-Binet* will do well in his school work.

Intelligence as a general aptitude for learning

There is substantial evidence to show that positive characteristics tend to go together. Contrary to popular belief, children who are bright tend to be taller, heavier, and to have fewer physical defects than those who are dull. The relationship between intelligence and physical characteristics, although slight, is

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definitely positive. In a major developmental study Terman (13) followed the progress of some 1,000 intellectually gifted children. He found that they were superior throughout the growth period in mastery of school subject matter, and in physical and social development, character, and emotional development.

Although there are many exceptions, if the pupil is unusually intelligent it is likely he will be superior in all subjects, although not equally so in all. There is apparently a kind of general aptitude used by the person in varying degrees according to the tasks performed. Figure 6-2 illustrates schematically this theory of intelligence called the Two-Factor Theory. If we represent test results on the two abilities of arithmetic and reading by two overlapping ovals, then the amount of the overlap can be thought

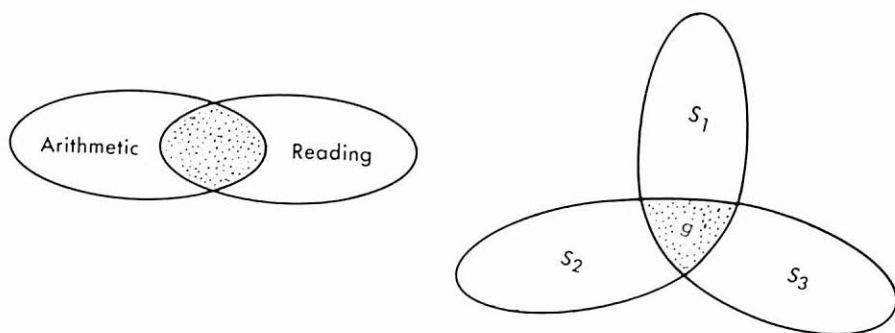


FIGURE 6-2. Schematic illustration of Spearman's Two-Factor Theory. The shaded areas represent the element common to a group of tests. The remainder of the ellipses represent the unique portion of each test.

of as the degree to which the two tests are related. That is, the common element (vocabulary and word meaning) in answering written questions about arithmetic problems and questions about the meaning of a paragraph can be represented by the shaded region in the left-hand diagram. Similarly, if there are three tests the part of ability which is common to all three and which is commonly called "g" (for general) can be represented by the shaded portion of the second diagram. Each of the letters S_1 (e.g., number facts), S_2 (e.g., computation) and S_3 (e.g., speed of reading) identifies the part of each test which is not common to all but unique to the specific test.

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This rather simple theory of a general ability "g" was short lived. Soon it was suggested that there were additional factors or special aptitudes. Today there is rather general agreement among psychologists that there are a number of intellectual dimensions. However, there is still considerable justification for believing that there is such a thing as "academic intelligence." To be successful in school a pupil must comprehend words, think in abstract terms, see relationships quickly, and so on. Such a conception of intelligence is not very general. It is largely restricted to abstract intelligence and gives little or no weight to social intelligence, mechanical intelligence, and intelligence in special fields such as athletics, music, drama, and oratory.

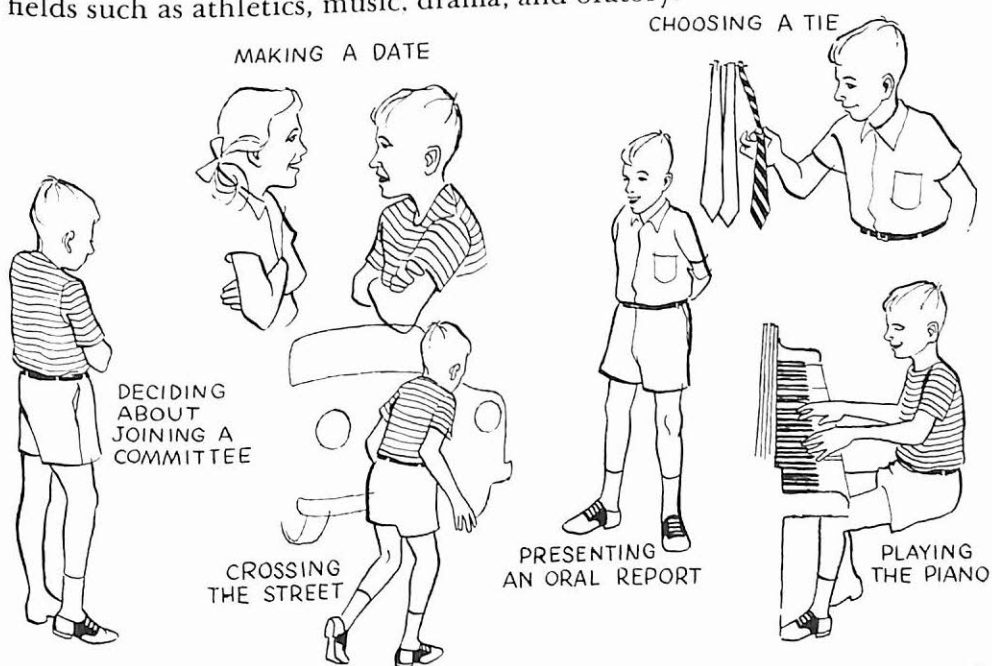


FIGURE 6-3. There are a number of dimensions of intellectual activity as can be seen above.

Kinds of intelligence tests

Intelligence tests can be classified in a number of different ways depending upon their manner of administration and purpose. One very common classification is that of *individual tests versus group tests*. The teacher is usually most familiar with the results of group-administered intelligence tests. In fact, she is often asked

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tests. Performance and nonlanguage tests have been developed. Some of the recent intelligence tests have separate "language" and "nonlanguage" sections.

The first nonlanguage group test was the *Army Examination Beta* developed for testing foreign-speaking and illiterate soldiers in World War I. The test was similar to *Army Alpha* but the directions were administered by means of gesture, pantomime, and demonstrations on specially prepared charts. Another well-known nonlanguage scale is the *Pintner Non-Language Test* (10) which was originally designed for use with deaf children. It has subsequently been employed with many other types of subjects. It is ordinarily administered with simple oral directions but pantomime directions are also available.

TEST 5

In each picture draw what is left out. Work fast

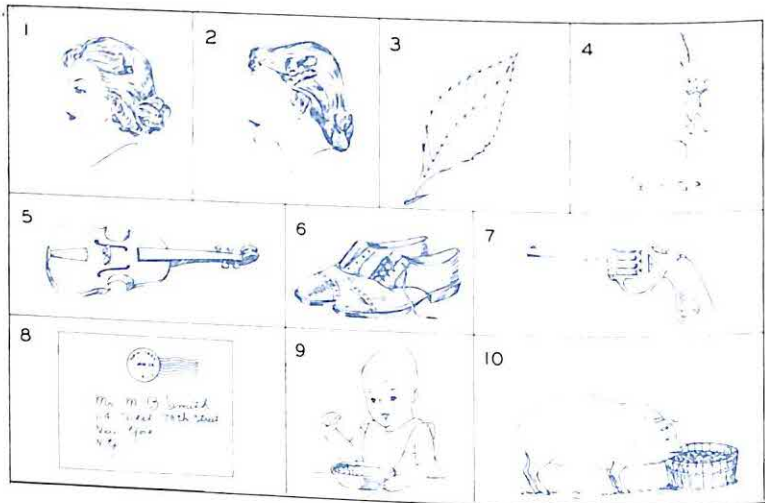


FIGURE 6-5. Typical items from *Pictorial Completion Test of Army Beta*. This is a nonverbal test and was devised for the Army to test illiterates. (From C. E. Kellogg and N. W. Morton. *Revised Beta Examination*. The Psychological Corp., 1957. With permission.)

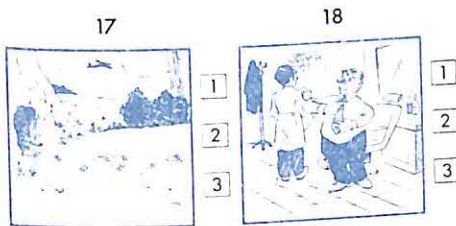
Although one of the purposes for which nonlanguage tests were designed was to take into account the effect of different cultures (foreign, urban, rural, race, socioeconomic, etc.), it is clear that persons from certain cultures would still be handicapped because of specific information the test presupposes. Attempts have been

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made to construct tests which utilize only elements common to many cultures. A number of authors have constructed such tests where efforts have been made to remove certain kinds of cultural bias. One of the most recent developments in intelligence testing designed to be relatively free from "social-class bias" is the *Davis-Eells Games* (4). It is applicable from the first to the sixth grade and is entirely pictorial, requiring no reading. The directions are given orally by the examiner.

Davis-Eells, Elementary-A

Directions for Administering and Scoring



(Problem 17) Now turn to the next page and fold your book, like this. (Demonstrate. Make sure that all pupils are on page 6.) Look at the first picture. It shows a cave and some footprints. Look at the picture while I tell you about it. Look at the picture and mark the right box.

- No. 1 Box: This picture shows that a man and an animal walked off together.
- No. 2 Box: This picture shows that an accident has happened to the man or the animal.
- No. 3 Box: The picture shows that something else has happened to the man or the animal.

Allow 15 seconds.

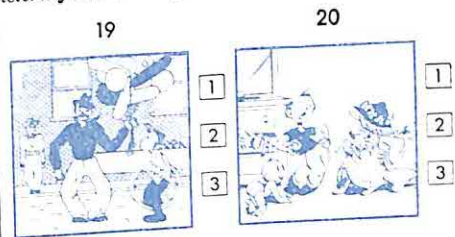
Be sure to mark a box.

(Problem 18) Now look at the picture beside the one you just did. It shows a man and a barber in a barber shop. Look at the picture while I tell you about it. Look at the picture and mark the right box.

- No. 1 Box: The man knows that the barber made a mistake.
- No. 2 Box: The man does not know that the barber made a mistake.
- No. 3 Box: Nobody can tell from this picture whether the man knows or not.

Allow 15 seconds.

Be sure to mark a box.



(Problem 19) Now look at the first picture in the bottom row. It shows a man with some balloons. Look at the picture while I tell you about it. Look at the picture and mark the right box.

- No. 1 Box: This picture shows something that could not happen to the big man.
- No. 2 Box: This picture shows something that could not happen to a balloon.
- No. 3 Box: Nobody can be sure what is wrong with this picture.

Allow 15 seconds.

Be sure to mark a box.

(Problem 20) Now look at the last picture on this page. It shows a baby, a boy, and a girl. Look at the picture while I tell you about it. Look at the picture and mark the right box.

- No. 1 Box: The big boy is making fun of the girl.
- No. 2 Box: The big boy is making fun of the baby.
- No. 3 Box: Nobody can tell which one the boy is making fun of.

Allow 15 seconds.

Be sure to mark a box.

FIGURE 6-6. Some sample items from *Davis-Eells Games*. These items were constructed to remove bias due to socioeconomic status. (World Book Co., 1953. With permission.)

UNDERSTANDING INDIVIDUAL PUPILS

In recent years Thurstone (14) attempted to separate mental functions into such aspects as verbal, number, space, and reasoning. Separate tests of each of these abilities have been prepared. Although considerable research has been undertaken in this area, much remains to be done before we can have the knowledge about and confidence in the measurement of specific mental functions that we have in general academic intelligence.

Interpretation of intelligence test results

A child's performance on any test is meaningless without some frame of reference for its interpretation. Scores on intelligence tests are generally reported in terms of mental age, IQ, and percentiles. Mental age (MA) is a derived score which indicates the pupil's level of mental development. If a pupil performs on the test as does the average twelve-year-old, we say he has the same general ability, and that his MA is 12. If an eight-year-old attains an MA of 12, we know that he is exceptionally able. An eight-year-old with an MA of 8 does what is typical for his age and a sixteen-year-old with an MA of 12 is retarded in mental development. These evaluations (superior, average, retarded) are based on a comparison of his mental age with his chronological age (CA). The intelligence quotient (IQ) is a more effective way of making the same comparison and is expressed as:

$$IQ \text{ (Intelligence Quotient)} = \frac{MA \text{ (Mental Age)}}{CA \text{ (Chronological Age)}} \times 100$$

The eight-year-old with an MA of 12 and a CA of 8 has an IQ of 150.

Both MA and IQ are important scores. The IQ indicates the pupil's brightness or *rate* of mental development. The MA indicates his present *level* of mental development. For example, a five-year-old with an IQ of 160 has not reached as high a *level* of development as a ten-year-old with an IQ of 90. The five-year-old has an MA of 8 while the ten-year-old has an MA of 9. The younger child can do tasks at the eight-year-old level of difficulty while the older performs at the nine-year-old level.

One of the most important questions to be raised is the amount

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of confidence that can be placed in an IQ score. John B. obtained an IQ of 110 in the fourth grade and 118 in the sixth grade. Similar discrepancies are familiar occurrences to most teachers. A primary reason for the differences is that any test score is only an estimate of the person's "true score" since all scores contain an error of measurement. Two tests given on the same day might disagree somewhat.

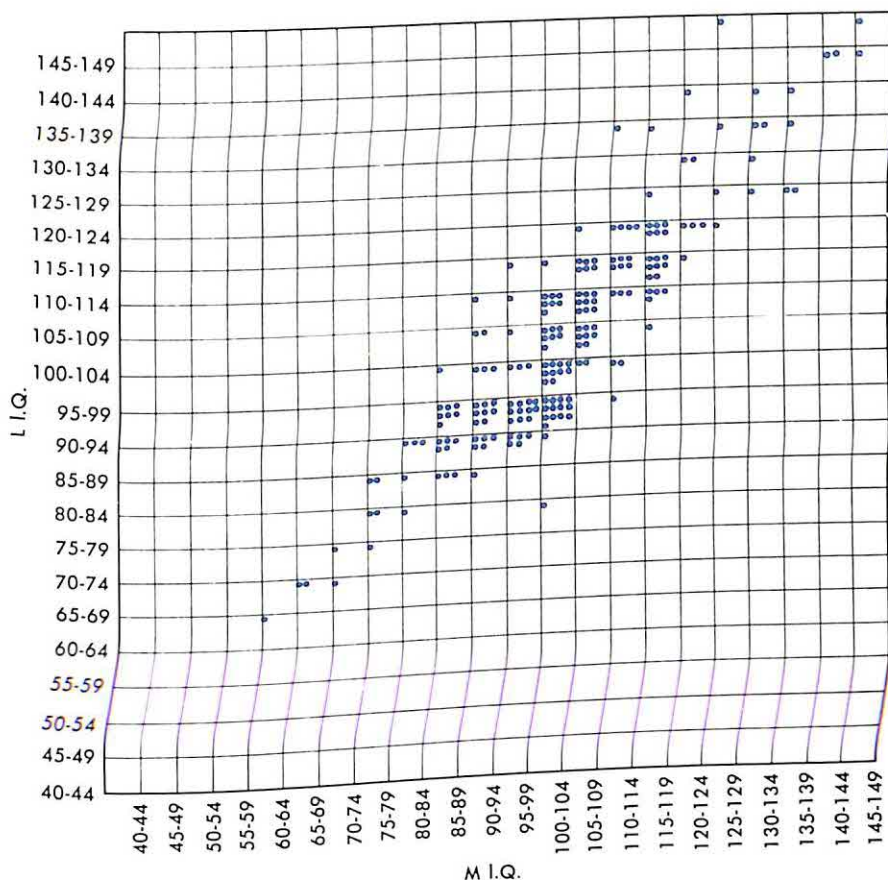


FIGURE 6-7. Parallel form reliability of *Stanford-Binet*. Scatter diagram of IQ's obtained by 7-year-old children of Forms L and M. Note the high degree of consistency of performance on the two forms. (Houghton Mifflin Co., 1937. With permission.)

Now, what kind of changes in IQ can we expect over a two-week interval? Let us consider only those children who fall between 95 and 99 IQ on Form L of the *Revised Stanford-Binet*.

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parents, teachers, and psychologists. Research has shown that children living under physically impoverished conditions became progressively lower in IQ level with increasing age (11, 16) because the environmental conditions only permit a minimal level of mental development. This was demonstrated in a study (17) comparing children attending rural one-room schools over a two-year period with those attending a central school in the same geographical area. The children in the one-room schools showed some losses in IQ, while those in the central school showed gains. There is additional evidence to show that favorable environmental conditions stimulate a higher rate of mental growth.

In spite of the foregoing evidence it should be pointed out that hereditary factors do account for certain of the individual differences in IQ level. The results of studies to date make it reasonable to attribute about 25 per cent of IQ variability to environmental conditions and 75 per cent to genetic factors (2). It would seem that much can be done to increase mental-growth rates of children within what appear to be fairly broad and flexible hereditary limits.

Use of intelligence test results

The results of intelligence tests administered to pupils may be used for two very important purposes. We can approximate their relative intellectual status at the *present* time, so that other aspects of their behavior can be better understood. It is also possible to *predict* their relative intellectual status at some *future* time. Better decisions regarding their educational guidance are the outcomes.

Intelligence tests have been useful in predicting reading readiness, in predicting school progress in subjects such as arithmetic and reading, and in predicting probable success in college. They have also been used extensively by educational, military, and industrial institutions to help predict probable success. Figure 6-10 which is based on extensive data obtained in World War II shows the median AGCT score (one type of intellectual aptitude) for white enlisted men who were in the designated occupations. Although there is considerable variability in intelligence among

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the members of any vocational group, there are substantial differences in intelligence between the *average* members of certain occupations.

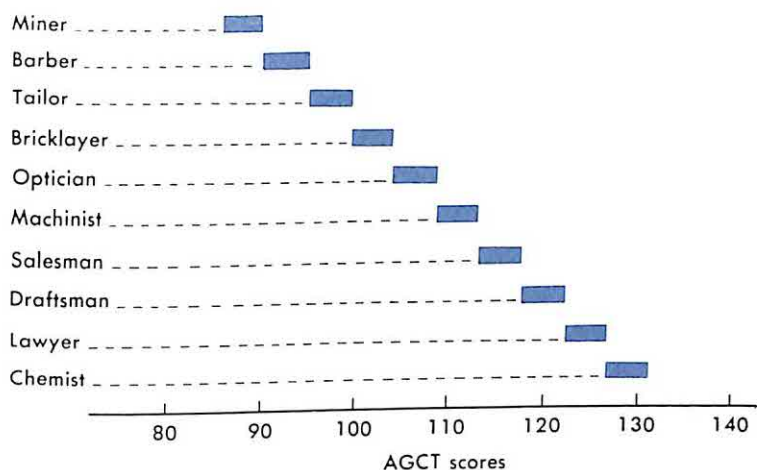


FIGURE 6-10. Selected occupational groups ordered according to their *median* AGCT scores. Note that these are average intelligence-test scores and that some miners actually obtain scores higher than, for example, salesmen. (Adapted from D. E. Super. *Appraising vocational fitness*. New York: Harper & Bros., 1949. Pp. 96-97. With permission.)

Intelligence tests are of particular value to the teacher in selecting children for special learning situations. In combination with scores on reading and arithmetic tests, they have been used successfully by teachers to set up academic groups needing remedial instruction. This kind of evidence documents the value of intelligence tests at the lower IQ levels.

Since the hope for further progress in our civilization rests largely in the minds and hands of the intellectually gifted, their identification is vital. The successful use of intelligence tests for this purpose has been demonstrated time after time. The best-known work is that of Terman (13) and his associates who identified 1,000 intellectually gifted children (*Stanford-Binet* IQ's over 140) and then followed their progress from 1921 to 1946 at which latter time they had reached an average age of about thirty-five years. This study showed that their later achievements were in general consistent with their early promise.

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TABLE 6-1. Here are IQ's and corresponding percentile ranks obtained on the *Kuhlmann-Finch Intelligence Test*. Both percentile scores and IQ's can be used to describe performance in an intelligence test.*

<i>Percentile</i>		<i>Percentile</i>		<i>Percentile</i>		<i>Percentile</i>	
<i>IQ</i>	<i>Rank</i>	<i>IQ</i>	<i>Rank</i>	<i>IQ</i>	<i>Rank</i>	<i>IQ</i>	<i>Rank</i>
53	0.1	85	17	101	53	117	86
63	1	86	19	102	55	118	87
67	2	87	21	103	57	119	88
70	3	88	23	104	60	120	89
72	4	89	25	105	62	121	90
74	5	90	27	106	65	122	91
75	6	91	29	107	67	123	92
76	7	92	31	108	69	124	93
77	8	93	33	109	71	125	94
78	9	94	35	110	73	126	95
79	10	95	38	111	75	128	96
80	11	96	40	112	77	130	97
81	12	97	43	113	79	133	98
82	13	98	45	114	81	137	99
83	14	99	47	115	83	141	99.5
84	16	100	50	116	84	148	99.9

* With permission of the American Guidance Service, Inc.

Although the interpretation of the IQ is most effective in terms of percentile scores (see Table 6-1), several general classifications such as the following one of Terman's (12) have been widely used:

<i>IQ</i>	<i>Classification</i>
Above 140	"Near" genius or genius
120-140	Very superior intelligence
110-120	Superior intelligence
90-110	Normal, or average, intelligence
80-90	Dullness, rarely classifiable as feeble-mindedness
70-80	Border-line deficiency, sometimes classifiable as dullness, often feeble-mindedness
Below 70	Definite feeble-mindedness

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Of the feeble-minded, those between 50 and 70 IQ include most of the morons (high, middle, and low), those between 20 or 25 and 50 are ordinarily to be classed as imbeciles, and those below 20 or 25 as idiots.

Such a method of classification implies a constant social setting within which broad value judgments can be made. Of course this is not always the case. Pupils interact socially with a variety of subgroups. In some of them a pupil might be considered dull because the other members with which he is being compared all exceed him in IQ. In a different setting he might be considered bright because he had the highest IQ among a number of pupils with relatively low IQ's.

TESTS OF SPECIAL APTITUDES

Aptitudes important for evaluation

Pupils have many different aptitudes and abilities which vary drastically in amount and importance from person to person. These can be combined in an almost infinite number of ways for success in schooling and life. The child who is best able to identify his strengths and build his life around them is most likely to make his maximum contribution to society and achieve the greatest satisfactions. A strong impetus to the construction of all special aptitude tests has been provided by the urgent problem of matching educational and vocational requirements with the particular pattern of abilities characterizing each individual.

Long before the advent of differential aptitude batteries, it was generally recognized that the usual intelligence tests were quite limited in their coverage of abilities. Attempts to fill in the gaps and broaden our understanding of the pupil's potentials resulted in the construction of special aptitude tests. Among the earliest of these tests were scales designed to measure mechanical aptitude. The demands of vocational selection and counseling also stimulated the development of tests to measure clerical, musical, and artistic aptitudes. Tests of vision, hearing, and motor dexterity have also been devised to assist in the over-all guidance process.

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As an example of a test of special aptitude, let us consider the *Horn Art Aptitude Inventory* (5), designed for estimating probable success of applicants to art school. This test requires the subject to sketch a picture around a pattern of lines (see Figure 6-11). The pictures are judged by art instructors as to imagination and

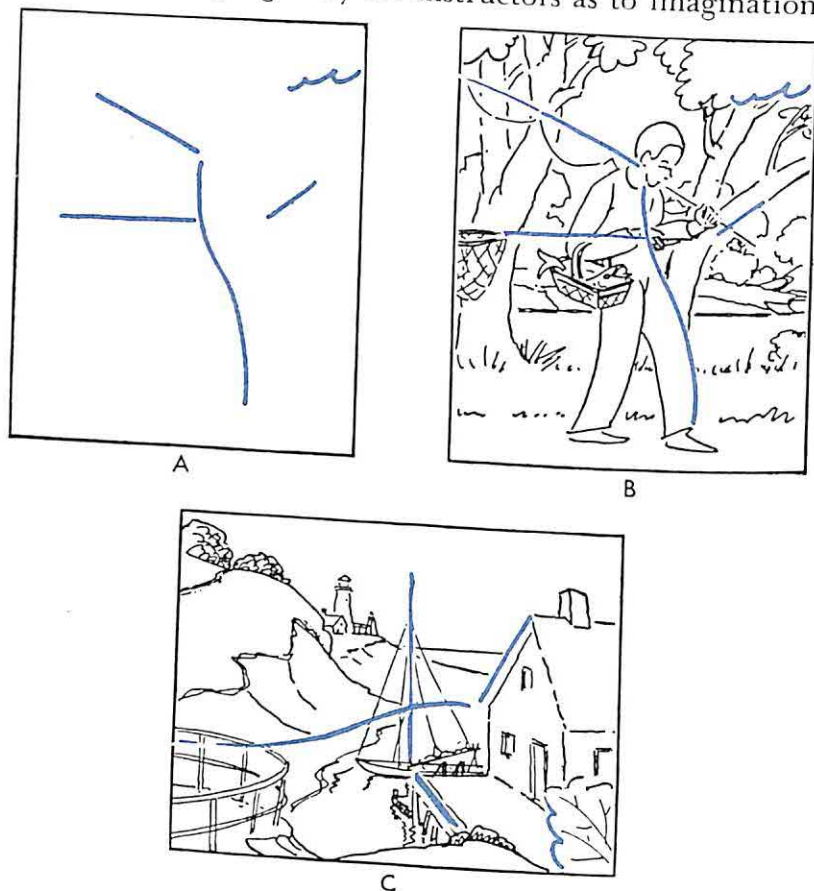


FIGURE 6-11. Specimen item from *Horn Test of Art Aptitude*. Rectangle A shows the stimulus lines. The other two show drawings based on them. In rectangle B, the artist viewed A as shown and in rectangle C he turned it sideways. (From C. A. Horn and L. F. Smith. The Horn Art Aptitude Inventory. *J. appl. Psychol.*, 1945, 29, p. 351, Figure 1. With permission.)

technical drawing quality. Obviously, previous experience in drawing is an important factor in the picture produced. Artistic aptitudes are among the more difficult areas of measurement and progress here has been correspondingly slow. There are, however,

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several tests of artistic appreciation and tests of creative artistic ability. Musical aptitude was one of the early artistic areas to receive the attention of test-makers. Tests to measure discrimination of pitch, loudness, rhythm, time, timbre, and tonal memory are available. There are also tests to rate interest in different types of music.

Motor dexterity tests are designed to measure speed and coordination of movement. The principal use of such tests is for vocational placement. The classroom teacher is not likely to give such tests. Even so, it is desirable for her to know that they are available, since she may send students to the guidance counselor for additional testing. Some tests measure this skill by the speed with which the subject can insert pins into a small hole either by hand or with a tweezer. Others utilize no tools but require assemblage of pins, collars, washers, etc. One involves the use of common hand tools to remove and replace nuts and bolts. These activities, similar to many of the toys we buy for young children, have demonstrated their value for predicting success in certain types of jobs available to pupils leaving school.

Many tests of mechanical ability are also available. They too are tools in the kit of the vocational guidance counselor. Their usefulness is in predicting performance in shop courses, technical and medical courses, art, and dentistry.

For the teacher of business subjects there are various tests of clerical aptitude. Some require the subject to match names and numbers. Others test such things as, spelling, vocabularily, typing, and filing skills. Tests of this kind have been used advantageously by students taking a high-school commercial course.

It is desirable at this point to comment on the concept of "special aptitudes." The term was introduced at a time when the major emphasis in testing was placed upon "general intelligence." Mechanical, musical, and other special aptitudes were regarded as supplementary to the IQ in the description of a person. With increased study, it was gradually recognized that "intelligence" itself is composed of a number of "special aptitudes" such as verbal comprehension, numerical reasoning, spatial visualization, associative memory. Special aptitude tests include a miscellaneous

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collection of instruments, each measuring a more narrowly defined area than either intelligence tests or differential aptitude batteries. The multiplicity of such tests is due largely to attempts to find the best predictors of future achievement in both educational and vocational settings. Continuous efforts are being made to devise tests which will improve our ability to predict the future performance of our young citizens.³

Use of aptitude tests

Despite the usefulness of aptitude tests great care must be taken in using and interpreting them. The usual practice in schools is to give a general intelligence test which is supplemented by achievement records. In problem cases these kinds of information often suggest certain hypotheses about a pupil. Additional data are usually needed and can frequently be provided by some particular aptitude test or tests. At this point a hypothesis may appear to be confirmed or a new hypothesis may seem more probable. If the latter, the cycle now begins again and more information is sought until the problem is solved. The judicious and careful use of well-selected aptitude measures can, in general, assist a teacher or counselor in obtaining more adequate and satisfactory solutions to the numerous educational problems.

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³ To obtain information about the available kinds of special aptitude tests the teacher should consult Burors' *Mental measurement yearbooks*. (3)

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CHAPTER 7

Identifying Pupil Interests

THE MODERN TEACHER gives careful consideration to the interests of her pupils. Miss Simons is typical of such teachers. She tells us that John likes mechanics, Mary likes homemaking and Pete likes sports. How does the teacher make such inferences? To acquire this knowledge she must make many observations of each pupil under a wide variety of circumstances; what he reads, talks about, and learns most rapidly. She must pay particular attention to the degree of attractiveness the activity has for the pupil.

Many signs are used by the observant teacher in learning about pupils' interests. Al, for example, has more than the usual preference for geography. He reads many geography books and magazines, talks to his friends about "travelogue" movies, and prefers games and other entertainment which involve geography in some way. He knows more about the subject than any other pupil in his class. The teacher has learned about Al's interest through his behavior in school—his attentiveness, concentration, degree of activity, lack of boredom, and particularly his preferences of areas in which to work. Inferences which the teacher makes from such observations help her to anticipate how the pupil will behave in future situations and what specific activities will best motivate him.



A single activity differs in its appeal to individual pupils. Which pupil is most interested? How do you know?

Identifying pupil interests by informal methods

The simplest way to find out about preferences is to ask the pupil what he likes and dislikes. The teacher may want the pupil to write these down in a somewhat systematic manner by answering a questionnaire something like this one used by Jersild and Tasch in their research study:¹

My three wishes:
 What I don't care to study about:
 What I like best when I'm away from school:
 What I like least at school:
 What I like least outside school:
 The most interesting thing I have done at school during the past
 week or so:
 One of the happiest days in my life:

¹ Items selected from A. T. Jersild and R. J. Tasch. *Children's interests and what they suggest for education*. New York: Bureau of Publications, Teacher's College, Columbia University, 1949. P. 91. With permission of author and publisher.

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The replies to these questions may be categorized into attractions and aversions with respect to material things, or recreational, social, artistic, and musical inclinations. The specific classifications used will depend upon the kinds of information the teacher wants. From a practical viewpoint tabulating all responses might be a tedious operation. The teacher may want to get only a general idea of pupil interests by reading all responses and summarizing a general impression.

Another useful device is to ask pupils to give talks about vacations and "things I enjoyed doing most" or any of the other topics suggested in the foregoing questionnaire. If given the opportunity, pupils generally talk freely about their interests. In most instances there are few stigma and consequently little threat. Only when they find an unsympathetic listener or when they feel their position or status will be jeopardized do they hesitate to speak freely about things they enjoy or dislike.

Although verbally expressed interests are rich kinds of information for the teacher, a few cautions must be observed. Children's interests are relatively unstable. However, stability increases with age. The manner in which the questions are asked may also influence pupil responses. For example, if the teacher asks about wishes or fantasies, one kind of interest may be elicited while entirely different interests may be reflected when the pupil is asked about his choices or preferences.

Another way to learn about the interests of the pupil is to observe the activities in which he participates *when he has a relatively free choice*. Pupils may be asked to keep a list of the books they have read, or you may want them to bring their different collections to school to show other children. They may be asked to discuss their hobbies or demonstrate a skill connected with a hobby. The topics pupils discuss during informal play periods and "free discussion" may be noted.

The kinds of part-time jobs held by pupils will also enable you to infer their major interests. Under some circumstances pupils may work primarily for the financial remuneration. On the other hand, many a boy has found a business orientation emerging out of experience with a newspaper route or work in a grocery store.



Part-time jobs are sometimes the forerunners of the more enduring interests of the adult.



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Other boys have been led to investigate civil engineering as a vocation after working for a summer with a surveying team.

As a dynamic factor in pupil behavior it is reasonable to expect that interests will find an outlet in preferred activities. However, a few factors tend to detract somewhat from the validity of the inferences you make on the basis of informal observations (13). First, the pupil may be participating in the activity for its by-products. The boy in our example above sells newspapers because he can make money. The captain of the football team or the editor of the school newspaper may be participating in these activities primarily for the opportunity for social interaction. Once other means are found for attaining the satisfaction of these needs the activities may be dropped. Secondly, the number and kind of activities in which an individual may participate are often limited because of circumstances beyond his control. The

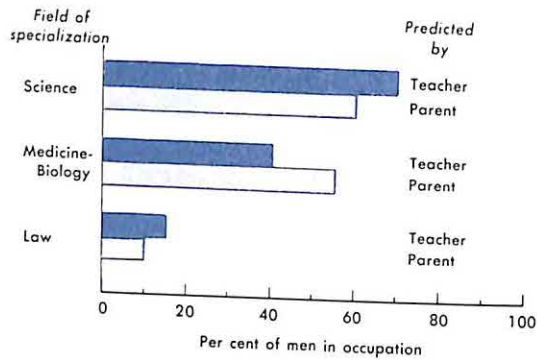


FIGURE 7-1. Percentage of men in a field of specialization as predicted by teachers and parents. The predictions were made when the child was about 10 years old. The data are based on occupations held 29 years later. Science was named at an early age as a suitable occupation for the child. The suitability of law and humanities (not shown) were less successfully identified. (Adapted from L. M. Terman. Scientists and non-scientists in a group of 800 gifted men. *Psychol. Monogr.*, 1954, 68, No. 7. P. 9. With permission.)

pupil may, for example, be genuinely attracted toward photography but may not have the necessary money for the equipment needed to pursue that hobby. Environmental circumstances also limit the degree to which an interest may find expression as in the case of the boy who may want to join a 4-H club but lives in the

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center of a metropolitan area. On the other hand, pupil interest can sometimes be spotted at an early age as you can see from Figure 7-1.

The origins of interests

The psychologist today entertains several notions as possible explanations of how we develop preferences.

A casual observer notices that some likes and dislikes are gradually acquired because of successes or failures in some area of accomplishment. There is much personal satisfaction to be gained when we do things easily. Activities accompanied by failure, leading to thwarting and threat, are eventually disliked.

Other interests reflect the more enduring structures of the personality (1). The patterns that are measured by inventories reflect in large part the way *we perceive ourselves*. Here are to be found the underlying meanings the individual has of his own particular role in his society, his sex role, abilities, and his tendencies to be outgoing, withdrawn, or self-confident. Each of these characteristics is a basic part of his personality. Responses on an interest inventory and preferences for specific tasks are only two, among many, means by which he expresses his self-concept. Feelings toward specific objects will tend to fluctuate. On the other hand, the *patterning* of interests is likely to remain quite stable and resistant to change because it is rooted in his personality structure (17).

Some interests get their start through identification. This is a kind of "hero worship." The pupil seeks the approval of certain favored individuals such as his parents, teacher, businessman or other person toward whom he is attracted. He attempts to gain the approval of these persons. Quite likely the pupil already has some skills which he can use with proficiency. His performance brings him the satisfaction of approval from the figure with whom he identifies. In the process of identification, the pupil also *imitates* the behaviors of the respected person. Success in these imitated roles is often a factor in the development of new interests for the individual apart from the model from whom they were first learned (13).

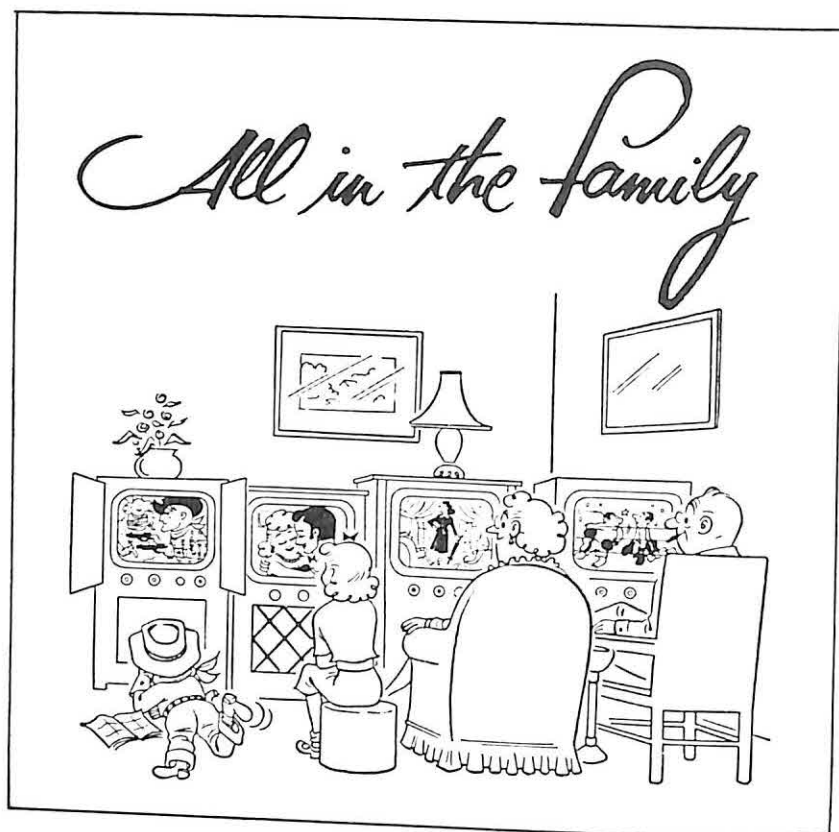


FIGURE 7-2. Variations in interests reflect the influence of the individual's experience. Note particularly the importance of age, sex, and personal identifications represented in the interests of each person in the picture. (Courtesy of Bill Gray. Reprinted from *The American Magazine*.)

The *breadth* of likes and dislikes is modified by ability and environmental opportunities. A high level of aptitude permits the pupil to engage successfully in a great number of activities. Similarly, the richer the pupil's environment the more opportunity will he have for a wide sampling of experiences. Eventually, most pupils will develop strong interests in a few areas rather than a relatively low interest level in many areas. The needs and value systems of the pupil provide direction to his selection of tasks. Only those activities that satisfy relevant needs will continue to be attractive. If the needs can be satisfied in only a small range of possibilities, interests become limited accordingly.

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Sex differences in interests

Nowhere do differences in interests appear so strikingly as between the sexes. Such differences begin to appear when children are in the first grade. Helping around the home, for example, appears as a definitely feminine preference in the early childhood years. At about the age of ten extremely feminine or masculine activities are almost unanimously disliked by the opposite sex. At this age the preferences of boys are characterized by anti-sissy, anti-work, and anti-intellectual factors. Girls' interests, at ten years, are typically anti-activity and anti-aggression (16, 18).

You can see these distinctions in a contrast between the identifications and principal activities of John C. and Mary S.

John C. is an assured, outgoing pupil who identifies with his masculine role. An analysis of his activities shows that he likes to play football, watch war movies, act in plays and the like. Mary S., on the other hand, has her identifications completely with the feminine role. She is a quiet girl and lacks the self-assurance in social situations that characterizes John C. Her preferences are for

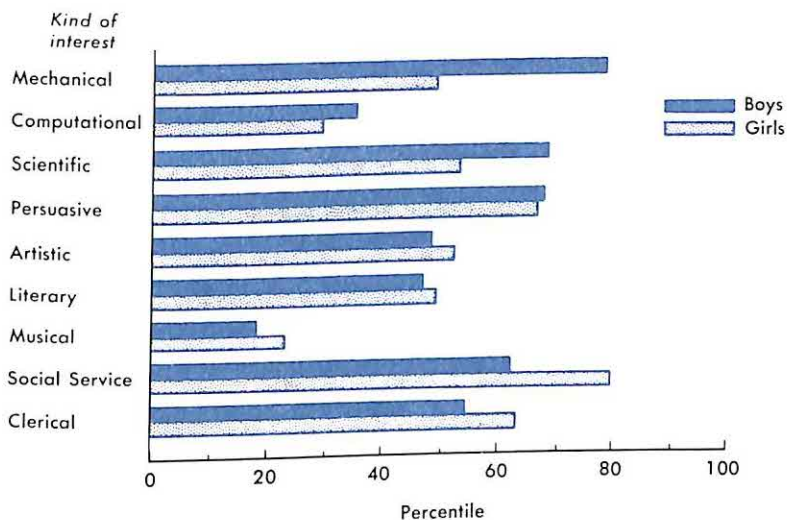


FIGURE 7-3. Interest profiles of high school boys and girls. The data in this figure are based on the average scores of many pupils. (Adapted from G. F. Kuder. *Kuder Preference Record: Revised Manual*. Science Research Associates, 1946. P. 21. With permission.)

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reading, making the costumes for the school play, playing nurse, and watching movies. Because of the differences in sex and personality, the activities preferred by John will be disliked by Mary.

Sex differences indicate the part played by cultural influence in the development of interest. Most boys are expected (and taught) to identify with the masculine and girls with the feminine role. The distinctiveness of the experiences imposed by each of these paths is highly influential in determining the basic interest patterns of each sex. The influence of specific experiences of this sort is reflected in the substantial relationships, found in research studies, between experience and preferences (3). Sex differences are clearly present in the interest profiles shown in Figure 7-3.

*The Case of Martin*²

Martin is now an eminent theoretical physicist whose history has been studied by Anne Roe. In this account are to be found many of the factors we have already described as contributing to the development of interests. There are the experiences of success, the dissatisfactions, the important personality structures, the identifications, and even the chance environmental factors which are frequently so important. You may find it interesting to look for the contributions of these several influences, in the sometimes smooth, sometimes vacillating molding of his preferences. Here is Martin's story:

I can't remember much about grade school except the fact that I got reasonably decent grades right along and that I was fairly interested in science and mathematics. I had a friend in 7th or 8th grade who was the son of a druggist and we got a chemistry set between us and played around with it and almost blew up the house. We spent our time memorizing the table of elements. I never got along in languages. I couldn't see any sense in memorizing grammar. In history I read so much I had many more facts than the rest whether they were right or not. I think probably the interest in science was partly because of father. When he was home he liked to do shop work and I used to do some with him. He was

² The case of Martin is quoted, with only slight abridgement and modification, from *The making of a scientist*. New York: Dodd, Mead, and Co., Inc. Copyright, 1952, 1953, by Anne Roe. Pp. 105-111. With permission of author and publisher.

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rather meticulous and in some ways this was discouraging for a beginner.

I was rather sickly. I imagine that it was more allergic than anything else, although it was not recognized at the time, and I was out sick two or three months each year. One term in high school I was only there for a month This meant that during most of the winter months I didn't get out and I got to reading fairly early. Since I was in the eighth grade I've been in the habit of reading four books or more a week One spell in high school, when I was sick for three months, I decided I was going into history and I spent the time in drawing up a historical chart beginning with the Egyptians.

I did very little going out in high school. Mother was very worried about it. I felt very shy. I started in my junior year in college and all of a sudden found it interesting and easy and rather overdid it for awhile. Let's see if I can remember how it happened. I just happened to get in with a group of fellows and girls who were interested in artistic things. I started going to the symphony concerts at that time and we got in the habit of going [out . . . sitting around and talking]. Since that time it's [social activity] been a thing I could turn on or off at will I've always been self-conscious at social functions and never cared very much for them. [When only a few people are present] it's different.

The first few years in high school I don't remember anything special about, except that I managed to get fairly decent grades in mathematics. I took physics and didn't like it. I had taken chemistry before I got there, but there was an extra course that sounded interesting so I took it and it turned out there were only four students in the course and a very interesting teacher. He sort of took personal charge and let us do pretty much what we wanted except that he was extremely insistent that we take care and do a good job. We worked through all of analytical chemistry there and I got a feeling for looking for small traces of elements, etc. This convinced me that I wanted to be a chemist. A little earlier I had gotten a job with the phone company which was with a fellow studying to be a chemist. I read Slosson, *Creative Chemistry*. This was the romantic thing to be. I think that teacher had more individual influence on me than any other.

When I was still in high school I took a job one summer at a Yacht Club. It was a navy camp and one of the instructors had been a radio operator. He got me interested in radio That winter he and two other radio amateurs decided to open a small

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radio equipment store in town and they asked me to go in When the craze hit in 1922 or 1923 the place was about swamped, it was the only store in town. What was made on the store pretty much paid my way through college. While this episode was interesting I was pretty sure I didn't want to go into business During part of this time in addition to working at the store I had been a part-time radio writer for one of the papers. While that was interesting, too, it didn't appeal as a life work either. By then I was convinced I wanted to go on in academic work.

. . . I just went to college expecting to be a chemist. I had no special idea about it. Two things happened in my freshman year. I took the college chemistry course plus the lab course. The lab course threw me for a complete loss. I think it was taught by a poor teacher who was careless of the reagents and they weren't pure. I got traces of everything and reported it. I didn't like the way the course was taught because I was told everything I was supposed to do and it soured me on chemistry.

I got acquainted with a young man who had just come there as an astronomer and was teaching mathematics. He was perhaps the most inspiring teacher I had At the end of the year I decided the devil with chemistry, I'm going into physics.

At that time the college had a course in physics which was not popular There was nothing special about the course except at the end of that year a prize examination was given The physics course was given with the calculus but didn't use it. So about the middle of the second term I got disgusted and decided I wanted to learn physics the right way and asked the teacher for a text I studied that so when the exam came along I gave it all in calculus and got the prize. This confirmed me, of course, and the next two years were extremely pleasant. . . .

My teacher felt I should go on to do graduate work. . . . I applied for scholarships at three places and took the second offer. I found it [my first year in graduate school] exciting. I started work on an experimental problem, but then I would get an idea for a theoretical paper and work on that for awhile and then go back to the other.

I think my teacher in high school had given me a few nudges in the direction of research. Both the professors at college with whom I was in close personal contact and saw daily were active in research themselves and I just soaked that stuff up. I find it hard to think back to the time when the idea of research and just spending all the time I had available on trying to understand anything wasn't just there.

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Identifying pupil interests by formal methods

The informal methods that we have described and illustrated by examples provide much information that will be of immediate use to you. You will also find through observation an increased understanding of the nature of interests and their effects on individual pupils. Eventually, however, you will arrive at a point where more intensive, reliable, and valid data are desired; and where information about interests is needed to help the pupil make long-range curricular and vocational plans. This point is first reached when the pupil begins his high school experience. In the junior and senior years the interest inventory becomes an important source of data about vocational interests to be supplemented by the data you collect by other means.

Two interest inventories are currently popular with teachers in the junior and senior high school. They are the *Kuder Preference Record* (5) and the *Strong Vocational Interest Blank* (10). There are fundamental differences between them in the way they are constructed and interpreted.

The *Kuder Preference Record* is composed of a series of triple alternatives from which the individual taking the test is *forced* to choose the one he likes best and the one he likes least. Typical sets³ of alternatives are:

Build bird houses.	Visit an art gallery.
Write articles about birds.	Browse in a library.
Draw sketches of birds.	Visit a museum.

By a tabulation of items liked and disliked in these sets of alternatives, the ten interest *tendencies* of outdoor, mechanical, computational, scientific, persuasive, artistic, literary, musical, social service, and clerical interests are measured by this inventory. The total number of responses are scored to determine the *strength* of a given interest. You can obtain a general impression of the way the inventory is scored by comparing some of the "like most" items which contribute to mechanical as contrasted with persuasive interest:⁴

³ From G. F. Kuder, *Kuder Preference Record: Vocational Form CH*. Chicago: Science Research Associates, 1948. With permission of author and publisher.

⁴ From the inventory and key of G. F. Kuder, *op. cit.* With permission of author and publisher.

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Mechanical interest

Work mechanical puzzles.
Build bird houses.

Take a course in metal working.

Persuasive interest

Sell tickets for an amateur play.
Be an artist for an advertising agency.

Interview people who are applying for jobs.

In Figure 7-4 is a profile of interests as measured by the *Kuder Preference Record* for Jim H. He has a high preference for science, clerical work, and mechanics and low preference for art and music compared with other high school boys. Jim is of average intellectual ability but has better than usual co-ordination and mechanical ability. In view of this combination of interests and abilities it is easy to see why Jim has selected a vocational curriculum and does so well in his industrial arts courses. As soon as he is able, perhaps after graduation, he says that he wants to take training to become a television repairman.

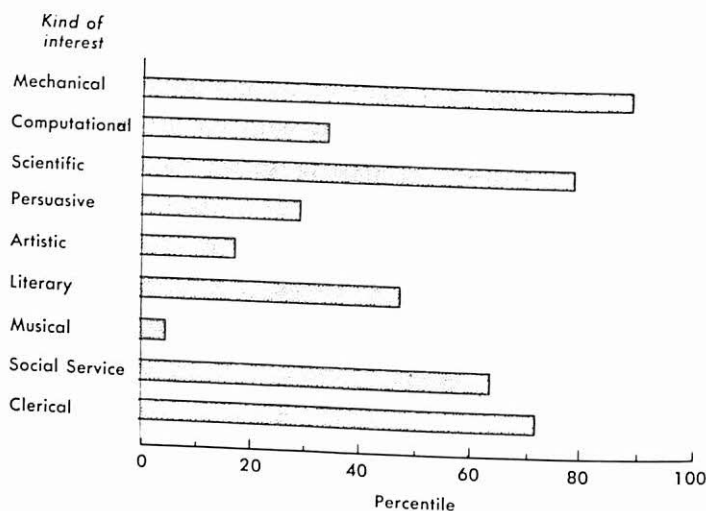


FIGURE 7-4. Here is Jim's *Kuder Preference Record* profile of interest tendencies. In what ways can he be easily motivated? In what ways would it be difficult to interest him in your subject?

Pupils with similar profiles but with better than average ability would probably differ from Jim primarily in their vocational choices. They might hope to attend college to become engineers, physicists, chemists, and the like. With a preference pattern like Jim's it would be easy for the teacher to motivate the pupil to

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work on projects which would help him find an outlet for his mechanical and scientific preferences. She might have more difficulty in motivating him in art and music unless it could be accomplished through his other dominant interests.

The *Strong Vocational Interest Blank* is a very different type of inventory. It relates the interests of the pupil to those of people who belong to different occupational groupings in our culture. The measure here is not the strength of an interest tendency, as it is in the *Kuder Preference Record*, but how much the pupil's general interests are like those of the scientist, the physician, the teacher, or any one of nearly fifty different occupational groupings. The scores are interpreted in the following manner: "Your interests are like (are not like) the interests of successful people who are engaged in X occupation."

The *Strong Vocational Interest Blank* is based on the assumption that successful individuals in various occupations can be differentiated on the basis of their likes and dislikes of occupations, school subjects, general activities, amusements, and people. As you can see, this inventory capitalizes on the differences between people in occupations while playing down the similarities. Contrast the differences between the preferences of the real-estate salesman and the mathematics-science teacher by examining the illustrations⁵ below:

<i>Item</i>	<i>Real-estate Salesman</i>	<i>Math-science Teacher</i>
Being a civil service employee.	Liked and disliked to the same extent as men in general.	Liked more than by men in general.
Interview prospects in selling.	Liked more than by men in general.	Disliked more than by men in general.
Reading <i>Popular Mechanics</i> .	Liked a little more than by men in general.	Liked more than by men in general.
Courses in algebra.	Disliked a little more than by men in general.	Liked more than by men in general.

⁵ From E. K. Strong, Jr. *Vocational Interest Blank for Men Form M*. (Revised). Stanford, Calif.: Stanford University Press, 1938. With permission of author and publisher.

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You will probably find the *Kuder Preference Record* more helpful for most of the classroom uses suggested in this chapter. It is more useful to know that the pupil has a given degree of interest in mechanics, science, computational activities, and the like rather than that he has interests like those of adults in *certain* occupations. However, when you want to determine whether the pupil will be happy in an occupation the situation is reversed. It is more direct in this instance to use the *Strong Vocational Interest Blank*. It tells whether he has the same interests as individuals engaged in specific occupations.

The *Kuder Preference Record* may be used as early as the eighth grade. The *Strong Vocational Interest Blank* employs vocabulary similar to that of the average pupil halfway through the tenth grade. Thus, the average tenth-grade pupil and the advanced ninth-grade pupil should have little difficulty in responding to either of these inventories (8).

Pupil interests in vocational choice

We now turn our discussion to the ways in which an understanding of preferences can be used to help pupils plan their vocational careers. Pupils in the eighth grade begin to think seriously about the curriculum that they will take in high school. Pupils in the tenth grade begin to think in more specific terms about the colleges they will attend, the course they will take while in college or, if not oriented toward college, about the vocations they will pursue after high school.

In the junior high school, vocational interests are not generally stable enough to be used for vocational planning. However, inventories may be introduced to the pupil at this time merely to help him become sensitive to the many occupational opportunities open to him. He may become aware of his dominant interests and the kinds of occupations in which outlets may be found. Merely responding to the inventory helps the pupil focus his attention on a variety of activities he may not have known about before. Later on during his school career, he can be guided to understand the meanings of preferences in terms of job duties. Through this process his understanding of these relationships

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becomes sufficiently close to reality to make possible an intelligent choice of occupation. The inventory becomes a means of identifying his major interests besides pointing toward certain jobs which can satisfy these interests.

Preferences inventoried by the *Kuder Preference Record* and the *Strong Vocational Interest Blank* exhibit a considerable degree of permanence following the early high school years (2). By the time the individual is in college, around twenty years of age, his major interests are similar to those he will have the rest of his life (11, 12).

The facts about the early appearance of interests have long been recognized by educators. The difficulty has been that teachers and guidance personnel have not taken them into sufficient account in guiding pupils. The teacher should not make the decision for the pupil. Her function is to help him recognize his preferences and provide information that will guide him toward the most appropriate vocational choice.

Capitalizing on interests in the classroom

The tendency of the pupil to explore and work diligently in areas in which he is interested is an important dimension of all learning. From a motivational standpoint, the teacher can use a pupil's interest to investigate many new aspects of his widening world. In the ultraprogressive movement in teaching, the pupil's immediate preferences were permitted to dominate the curriculum, exemplified in the "Children, what shall we do today?" period. This is now considered an extreme point of view, but nevertheless it documents the importance of interests as motivators. The more current viewpoint is that interests are more than static qualities of the personality, more than favored clusters of activities on which the teacher can capitalize as immediate aids to learning. Interests have important dynamic qualities. It is through the development of interests and the activities pursued in interest satisfaction that the pupil tests his skills and abilities. Through this process he eventually acquires a realistic concept of his personal characteristics, capacities, and abilities; his strengths and his weaknesses. Through this medium he learns about the



Interests lead to exploratory activities in many new fields.



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characteristics of his social environment, resources available in his physical environment, and the means and skills by which he personally can reach a maximum of need-fulfillment.

There is then, a practical relationship between interests, motivation, and learning. However, one cannot assume that there is necessarily a high relationship between interests and achievement. This is a commonsense principle which has gained popularity, but unfortunately is not founded on factual evidence. With respect to this point, John Darley and Theda Hagenah say:⁶

Both parents and students cleave to this axiom in its various forms:

"He would do well, if he were only interested in this subject."—

"If I could just find something I'm interested in, I'd be all right."—

"I'm terribly interested in science and I'll be able to get good grades in it." These statements are criticized on the grounds that they infer that interests are something that pupils can turn on and off like water faucets. Furthermore, such statements do not take into account the limitations of individuals on such factors as pupil capacity and environmental opportunity, which are of considerable importance in achievement.

As you can see, the effects of interests on achievement are not easily judged by the pupil's grades. There is a more subtle influence, which is better observed in the way he profits from his experiences. Two pupils, one with high interest and one with low interest, may have equal ability. Both may do equally well in a course if they have similar backgrounds of experience, initiative, and scholastic aptitude. However, there will be important differences in the outcomes of the experiences so provided. The pupil who has little interest will learn about this deficiency and not take further courses in the area. The qualities of the pupils' personal experiences will also differ. Edward C. Tolman's concept of wide and narrow cognitive maps provides a useful way of illustrating this point. The pupil who dislikes a subject, let's say algebra, takes the course because he has to. He reads the book, does his problems, meets the requirements demanded of him by

⁶ From J. C. Darley and T. Hagenah. *Vocational interest measurement: theory and practice*. Minneapolis: University of Minnesota Press, 1955. Pp. 56-57. With permission of author and publisher.

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the teacher and when he is through says, "That's it!" His range of participation and involvement is restricted. The profit gained by him is narrow indeed! On the other hand, many avenues are opened, by this experience, to the pupil with a great deal of interest in algebra. He may see algebra as a fascinating way of working with unknown quantities, the many short cuts to arithmetic provided, the applications to many vocational fields and the practical everyday applications. To this pupil his immediate activity is only the point of departure for new and fascinating endeavors. He has acquired breadth from the experience. Although interests and achievement sometimes may not appear to be related in the usual sense, you can see that there is a relationship between interest and the *quality* of the experience.

Interests in curricular planning

A knowledge of pupil interests may be used by the teacher in course planning at all grade levels. Both informal and formal methods of discovering the preferences of pupils provide useful information. Classwork in all subject-matter areas can be structured around a pupil's dominant interests. Pupils can be asked to write about their hobbies, to read about places of interest, to use their best skills in carpentry, drawing, modeling in clay, and the like. General areas of pupils' interest may be used as a stepping-off point from which lesson units are developed. Pupils with similar preferences can be encouraged to work on a common project. A special social occasion may arouse sufficient interest to be used as a framework around which social skills are taught.

Professor Andrews at the Syracuse University Art Class for Children utilizes these principles in his teaching. Pupils enjoy the variety in their artistic activities. One day they may draw and paint whatever they wish. Young pupils project their interests quite strikingly in this form of expression. Another day, children are divided into groups. They work together, for example on a large poster. They plan what the subject will be. They decide on the part each is to take in the activity. The subject is chosen on the basis of mutual interest through group decision. Pupils learn the skills of interacting with others while maintaining their



A well-planned classroom project has the potential of satisfying many different interests.

individuality. At the same time they are learning the "substantive content of art." They learn colors, color combinations, methods of holding the brush, use of different textured materials, and the many other skills so important for art to be a satisfactory means of expression in the life of the individual.

However, there is more involved than the mere exploitation of interests when they are used for curricular planning. A course may be interesting if our culture places a high value on the content. The teaching method which favors an approach involving interests oriented around people, personal experience, and local color is more interesting than one which is more impersonal and distant from the pupil's immediate experiences. Areas of study which result in a clear sense of achievement when the job is seen as finished, where there is a concrete answer, stimulate the greatest interest (4).

In any event, it is true that subject matter can be learned achievement-wise, while pupils are pursuing their interests, as illustrated in Professor Andrew's art class.

Oftentimes you will find it more practical to appeal to the whole class rather than a single individual. To illustrate this

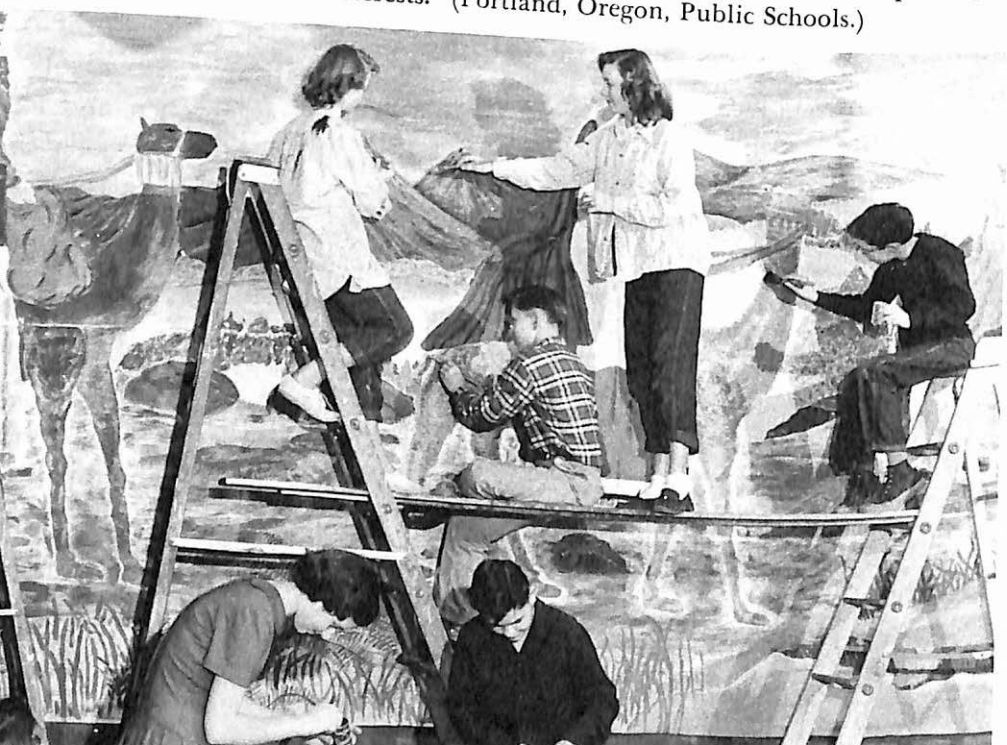
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point, here is an illustration from the experience of Miss Allen, one of our student teachers practicing in a Central New York school. She was teaching a foreign history course. The unit was to study the factors contributing to the growth of selected Grecian ports. This topic was immediately recognized as being far removed from the experience of junior high school pupils in an industrialized small town composed primarily of people in the upper-lower and lower-middle socioeconomic classes. Recognizing this, Miss Allen brought the subject close to home. She discussed the relationship between the development of the Erie Canal, which was but "a stone's throw" from the school, and the growth of the major cities in the Central New York region. Factors responsible for the growth of these cities were discussed by the pupils. A parallel was then drawn with the development of the Grecian cities. Starting with topics the pupils know about, which are close to their own experience, is one way of capitalizing on interests.

Promoting growth of pupil interests

Interest preferences are not mere transient qualities of the personality. They are the products of learning emerging from the

Social and technical skills are developed simultaneously while pupils pursue their interests in group activities. Pupils find opportunities for outlets in creative expression and social interaction while exploring their own interests. (Portland, Oregon, Public Schools.)



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important life experiences of the pupil which, in turn, influence his later life in no small degree. The satisfactions gained from a narrow range of activities generalize to include many more similar activities. In a very real sense interests are self-promulgating. There is no mystery here, particularly when we recognize the many needs which have been, and can be, satisfied by participation in preferred activities. Over a period of time these activities add considerable happiness and enjoyment to the life of the pupil. Variety can be introduced into even the most humdrum day-to-day living if the individual is able to enjoy fuller participation through interest satisfaction.

Among these are an interest in handy skills, such as first aid; interests useful for adding a richer flavor to everyday activities, such as being able to identify plants or birds when one is out for a stroll, or having skill in photography, or skills that are useful both for recreation and for social activity such as singing or playing a musical instrument.⁷

Any deeply rooted characteristic of the individual which crops out clearly in his behavior and which affects his happiness is worthy of special consideration by the teacher. Although the school does have considerable influence on the development of the interests of the pupil, it quite frequently tends to have a restrictive influence, as for example, when it places its emphasis on only a few types of activities. The unfortunate consequence is that pupils may never develop the variety of interests they need for happy and effective living. The time for interest growth is in the school years. The preferences of the adult can be traced to early childhood interests (4).

Individual cases have been observed by almost everyone in which the school has had an effect on the growth of interests. The pupil who finds prestige in joining the art class, whose products bring him social approval and a sense of achievement, is likely to find a long-lasting interest in art. Compare this experience with the pupil who finds his work in arithmetic brings him little praise and mostly ridicule, who finds no satisfaction but primarily frus-

⁷ From A. T. Jersild and R. J. Tasch, *op. cit.* P. 64. With permission of author and publisher.

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tration in attempts to solve problems, whose work is perhaps never seen as a completed product and whose interest eventually becomes nonexistent (4).



FIGURE 7-5. The pupil's interests reflect the structure of the personality, particularly of the way previous experiences influence his perceptions of himself. This understanding is helpful when interests are used in vocational guidance and classroom planning.

James L. Mursell effectively documents this point in describing a boy who, academically, did not have the mental attributes for success (6). Nothing was in his favor. He not only had below average intelligence but he also had a lack of interest in school and was overage in his grade.

All one could predict for this pupil was that he would hold a long series of mediocre jobs lacking in any stimulation whatsoever. The music teacher, however, took an interest in the boy. She provided him with systematic presentations of a wide variety of success experiences in music. He developed to the extent that he could participate with genuine interest in creative singing, dancing, and even composing. Although the follow-up of this case is not provided we can be quite certain that this experience contributed significantly to the satisfaction this pupil was to derive from later life, as well as in the immediate school situation.

The reverse of this case is illustrated in the findings of Florence M. Young who conducted a study to determine why college students lost interest in their high school subjects (19). The reasons given by the majority of her subjects were that the courses appeared to them to be meaningless and unimportant. These students also reported that their loss of interest might be attributed to uninteresting content, monotonous teaching methods, inability

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of the teacher to put the material across, lack of adequate foundation for taking the course, difficulty of the content, and lack of command of subject matter by the teacher. These are all unfortunate outcomes. The courses were to provide the foundation for successful college work. Instead, the pupils developed an early disinterest which would carry over into their college careers.

Changes in interest occur as a result of curricular opportunity, teaching procedures, and perceived consequences of an activity. Pupils need to be provided with opportunities for contact with many kinds of activities. Since the individual must live in a culture, his interests must be those which will help him to become well adjusted in that culture. He cannot be given an entirely "free" choice in the usual sense. The teacher can and should direct the development of interests, by enabling the pupil to participate in activities with feelings of success, adequacy, and pleasure. Varied interests may be acquired through broad experience. Variations *among* pupils occur because of the differences in the kinds of experience, degree of success in these, and ability to profit from them. Whatever the cause, the teacher must be alert to the many ways in which differences in interests are manifested. She can capitalize on a knowledge of these differences by recognizing the many influences they have on pupil performance. A wise utilization of this knowledge will make the pupil's school work a pleasant experience.

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Assessing Patterns of Personal Adjustment

BOYS AND GIRLS must satisfy their needs in many different settings: the home, the immediate neighborhood, the playground, the school, the organized clubs and social organizations to which they belong, and the incidental groups within which they sometimes function. Of all these social spheres it seems probable that the school ranks next to the home in importance for influencing the personal happiness and effectiveness of preadolescent youth. It still ranks high with adolescent boys and girls, perhaps giving way only to peer groupings in importance.

It is in school that boys and girls are assigned explicit tasks where success and failure are most clearly spelled out—even to the extent that parents are supplied a written record of their children's progress. The tasks assigned are not chosen by the pupils, and areas of frustration and failure must be faced again and again. This would be a depressing picture, indeed, if the school were not also the site of youth's brightest accomplishments and happiest memories. It is a point of departure for many satisfying social activities and a haven from the heavy socialization pressures of some homes. In many communities it is the only place where youth can seek aid and comfort from sympathetic counselors who are especially trained for the purpose and who are generally eager

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to help boys and girls explore their resources for independent decisions.

However, as is true in all walks of life, there are a few pupils who bear a heavy burden of frustration and despair. Their problems may or may not arise in the school but they color the pupil's entire living with unhappiness and feelings of inadequacy.



FIGURE 8-1. The school has failed in promoting the optimal adjustment of this youth who leaves school at the earliest moment permitted by law. He has a distorted concept of the school's functions. Ten years of academic failure and frustration have also distorted his perceptions of his own adequacy in any adjustment situation. What could have been done to help him?

Such pupils have few occasions to rejoice in their years of school attendance and frequently leave at the legally permitted age, poorly prepared for resolving personal problems during the adult years. The modern teacher is most anxious to identify these unfortunate pupils in the very early stages of their education, so that every effort can be made to help them realize more fully their potentials for psychological growth and adjustment. Identification is often difficult because many of these pupils conceal their overwhelming frustrations behind masks of social detachment, unconcern, or aggressive defiance. Special appraisal instruments are often needed to map the structure and dynamics of these pupils' adjustment problems. Although the available techniques for

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assessing personal adjustment are admittedly inadequate and subject to unknown biases, the data they yield are often helpful in suggesting further observation and inquiry. The teacher who is alert to their deficiencies can use them to advantage as a crude screening operation, all of the time realizing that the results should be accepted as only a first approximation.

The importance of personal adjustment

A striving youngster, enthusiastic about his achievements, loved by his parents, appreciated by his peers, socially important to his friends, planful for his future—this is the picture of ideal personal adjustment that every teacher likes to envisage for her pupils. However, she well knows that a few of them will be rebellious, sullen, aggressive, and destructive; and that the offenses of some will be so serious as to require separation from the community by legal procedures. Another small group of pupils can be expected to be socially withdrawn, self-depreciating, listless, and apathetic—leading in some instances to hospitalization for mental illness, either during the school years or in later maturity.

It is the modern teacher's aspiration to do everything possible to promote the happy and effective adjustment of each of her pupils. As first steps in this direction she is eager to establish a warm and understanding relationship with each pupil, and to conduct all learning experiences within the classroom in ways that further the adjustment status of all her pupils. In order to reach these goals the teacher needs a maximum of information about each pupil. Her observations and information obtained from adjustment inventories like those described in this chapter provide the teacher a crude measure of her success in promoting the mental hygiene of her pupils. The inventories of personal adjustment also help her to detect troubled pupils and make inferences about their adjustment problems.

What can the teacher do once she has identified a pupil who needs help? She knows that her skills for alleviating the frustrations of mentally disturbed boys and girls are limited. On the other hand, she is aware that she sees boys and girls under social conditions visible to no other person. She has an opportunity to

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observe them against the social standards of the group in an objective fashion not open to parents. And, of course, she can diagnose adjustment difficulties with the aid of a background in psychology enjoyed by very few other individuals in the community. Perhaps of greatest importance, the modern teacher knows where she can go for aid when she reaches the limits of her own resources. She has knowledge of the kinds of services that can be sought from the school psychologist, guidance counselor, visiting teacher, school physician, and the personnel of the local, county, or state child-guidance agencies.

In addition to utilizing the foregoing special services, the alert and generally informed teacher can do much in fairly direct ways to help boys and girls who are in psychological distress. With her knowledge of the general principles of psychological adjustment she can modify the school program to meet the needs of individual pupils, assume social roles for the benefit of socially deprived boys and girls, and at all times attempt to be an understanding and sympathetic adult. Although the teacher is primarily a guider of youth rather than a novice psychotherapist, she can become reasonably skillful in diagnosing pupil maladjustment, in helping youth with minor psychological problems, and in steering boys and girls with serious difficulties to competent psychotherapists.

Behavioral signs of "good" and "poor" adjustment

Some of the behavioral indicators of maladjustment are fairly obvious. The boy or girl who has been responsive to the usual socialization pressures and then suddenly resorts to stealing, lying, cheating, or aggressive attacks on other pupils is obviously disturbed and in need of assistance.¹ However, there are many less obtrusive ways of adjusting which reflect maladjustment and foreshadow very serious barriers to psychological growth.

Thirty years ago Wickman (9) surveyed the attitudes of a large population of teachers and found them deeply concerned about

¹ These youth are not to be confused with the boys and girls who have never been subjected to the usual social restraints. There are isolated subcultures in which lying, stealing, etc. are socially approved activities.

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pupil behaviors such as stealing, cheating, untruthfulness, bullying, and the like. They were much less concerned about unsocial, shy, fearful, and overly sensitive pupils. By 1940 the mental-

TABLE 8-1. The attitudes of teachers and psychologists toward certain behavior problems commonly occurring among boys and girls.*

<i>Average Rank Order of Seriousness of Behavior as Rated by</i>	
<i>514 White Teachers</i>	<i>42 Psychologists</i>
1. Untruthfulness†	1. Depression†
2. Stealing	2. Unsocialness
3. Cheating	3. Fearfulness
4. Unsocialness	4. Suspiciousness
5. Resentfulness	5. Cruelty
6. Disobedience	6. Sensitiveness
7. Impertinence	7. Shyness
8. Shyness	8. Dreaminess
9. Sensitiveness	9. Resentfulness
10. Domineering	10. Bullying
11. Destroying school property	11. Stealing
12. Defiance	12. Domineering
13. Depression	13. Defiance
14. Bullying	14. Untruthfulness
15. Dreaminess	15. Overcriticalness
16. Cruelty	16. Cheating
17. Overcriticalness	17. Truancy
18. Obscene notes	18. Destroying school property
19. Fearfulness	19. Impertinence
20. Masturbation	20. Obscene notes
21. Suspiciousness	21. Disobedience
22. Heterosexual activity	22. Masturbation
23. Truancy	23. Heterosexual activity
24. Puppy love	24. Puppy love

†Regarded as most serious

* Adapted from C. E. Thompson, *J. abnorm. soc. Psychol.*, 1940, 25, 120-125.
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hygiene movement had begun to have an effect on teacher attitudes toward the severity of different kinds of behavior problems. The data presented in Table 8-1 show that by 1940 teachers were reasonably close to psychologists in their estimates of the seriousness of those behavior patterns that do not disturb classroom routines but which may reflect severe maladjustment in pupils. The few major disagreements were the teachers' relative lack of concern for fearful and depressed pupils whom, as can be seen, the psychologists considered in dire need of comfort and assistance.

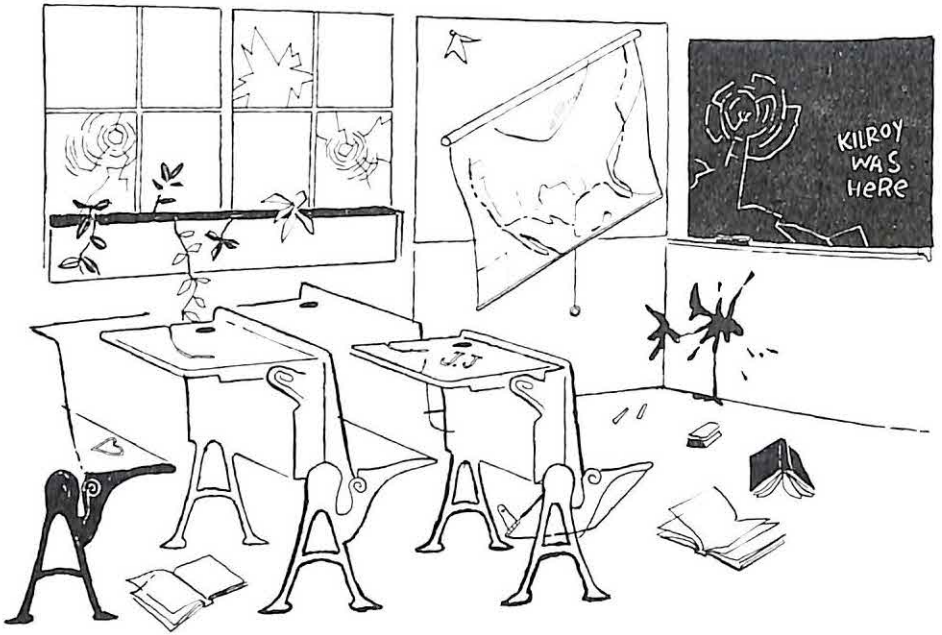


FIGURE 8-2. Destruction and defacing of school property is one indication of personal maladjustment. This behavior reflects aggression stemming from frustration in the school setting.

It is easy to overlook the adjustment difficulties of the pupil who withdraws into a fearful or depressed pattern of behavior. Careful observation might show him to be anxious, tense, and apprehensive, but he may do little to demand sustained observation. He suffers in silence, partly incapacitated by his problems but still able to carry on with classroom routines. This is the type of maladjusted pupil who may be detected by one or more of the personal inventories described in this chapter.

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The significance of the more outgoing and aggressive symptoms of maladjustment should not be overlooked. They, too, reflect a disturbed child in most instances. The chronic offender who throws stones through the window panes of his school may be "just a boy full of ginger" as his father describes him, but he may also be expressing hostility and aggression toward a symbol of his intolerable frustration. In a language unbeknown even to himself he may be calling for relief from his heavy burden.

THE SELF-INVENTORY OF ADJUSTMENT STATUS

The self-inventory is a commonly employed instrument for assessing a pupil's adjustment status. It is simple to administer and score, and permits comparison of a pupil's adjustment status with a large body of normative information collected from other pupils of comparable age and grade placement. The self-inventory has been developed in two general forms: (a) the pupil's responses to many different adjustment situations or possible problem areas, and (b) the pupil's responses to statements or questions that can be scored and interpreted according to some personality theory or other diagnostic classification. The latter type of inventory has been commercially more successful and more widely used in our American schools.

The "personal-problems" approach to adjustment diagnosis

In its simplest form this approach can be used without special equipment of any type. The teacher might ask her pupils to write on one or more of the following topics: "my greatest fears," "things that worry me," "bad dreams I have had," "daydreams I often have," "changes I would like to make in myself," "if I could have three wishes," and so on. The essays obtained by this method are usually interesting and informative. They are, however, difficult to analyze and interpret. The more verbally proficient pupils are likely to write longer stories. The less defensive youth will reveal more intimate information about their aspirations and conflicts, and there will be no standards or "norms" for interpupil comparisons. Despite these and other shortcomings that might be

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cited, the teacher may wish to use this relatively informal approach on occasion, as a special project in English or social studies. The beginning teacher may find the essays of special interest as a guide to the adjustment difficulties of her pupils.

The "personal-problems check list" provides a more standardized approach to this type of adjustment assessment. In its most widely used form the pupil is presented with a long list of problems in single word or short phrase form. The problems relate to social activities, self-evaluations, health, religion, home and family, moral issues, and so on through the gamut of life's experiences. The pupil may be asked to underline those problems that disturb him and to draw circles around those that are especially serious or troublesome (5). Some of the problems from Mooney's list are presented in Table 8-2.

TABLE 8-2. A sample of the problems presented in the *Mooney Problem Check List*.*

- 15. Never having any fun with mother or dad
- 28. Being left out of things
- 39. Poor complexion or skin trouble
- 55. Too little spending money
- 69. Giving in to temptations
- 80. Not smart enough
- 97. Being made fun of
- 111. Don't like school
- 139. Being lazy
- 150. Afraid to speak up in class
- 168. Losing my temper
- 191. Afraid of the future
- 205. No one to tell my troubles to

* Copyright, 1950, by the Psychological Corporation. Reproduced by permission.

The standardized check list of personal adjustment difficulties has several advantages over the less structured approach previously described. The check list permits an extensive survey in a short period of time. It prompts the pupil's memory and makes no special demands on literary talent. It permits a rough type of comparison among pupils and against published norms in some in-

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stances. Although it suffers from the lack of an integrated frame of theoretical reference, it can be used with profit in conjunction with other personal-problem instruments.

Another variation of the personal-problems approach is to present the pupil with a large number of statements related to broad areas of adjustment like health, family relations, self-appraisals, social relations, and the like. Two of the more popular of these "personal problems" instruments are the *SRA Junior Inventory* (designed for pupils in grades four through eight) and the *SRA Youth Inventory* (for grades seven through twelve).²

By way of illustration let us have a look at the format and scope of the *Junior Inventory* (6). It encompasses school, personal, home, social, and general adjustment problems. The pupil responds to each statement according to the sample of instructions presented in Figure 8-3. Normative data are presented to show how frequently a particular response occurs among a large sample of pupils from all parts of the United States. For example, in response to the item "I feel mad most of the time" less than 10 per cent of the pupils tested considered this either a moderate or severe problem. In contrast, over 25 per cent of the pupils in the standardization group considered the following a moderate or severe problem, "I need more friends." The responses to these two items illustrate the importance and usefulness of normative data in evaluating a given pupil's responses. As can be noted, many pupils feel the need for more friends. This is a pervasive and prevalent attitude in our American culture and is not necessarily a reflection of unhealthy adjustment status. On the other hand very few pupils "feel mad most of the time." One might be properly concerned about the mental health of a pupil who harbors feelings of chronic hostility and aggression, because our culture does not usually elicit such intense and prolonged emotional response.

The teacher may find it especially instructive to study her pupil's responses to the following types of items, "I don't like school very much," "I don't see why I have to go to school," and "I don't have much fun in school." The pupil who indicates he

² Published by Science Research Associates, 57 West Grand Avenue, Chicago, Illinois.

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Before you begin, let me show you how one boy marked four of the problems you will find in your booklet:

I am too fat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/>
I need more friends	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
My feet hurt when I play	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="radio"/>
I want to learn how to read better	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>

Here is how the boy was thinking when he checked these four statements:

For the first statement, when he marked the circle, he was thinking: "I'm not too fat. That's not one of my problems."

For the second statement, when he put a mark in the middle-sized box, he was thinking: "I have a few good friends, but I would like to have more. I guess that would be a middle-sized problem for me."

For the third statement, when he put a mark in the little box, he was thinking: "Once in a while when I play baseball my feet start to hurt. I guess I'd call that a little problem because it doesn't happen very often."

And for the fourth statement, when the boy made a mark in the big box, he was thinking: "I can't read very well and I want to learn to read better! This is one of my biggest problems, so I'll put a check mark in the biggest box."

FIGURE 8-3. Examples from the instructions for the *SRA Junior Inventory*. (From H. H. Remmers and R. H. Bauernfeind. *Manual for the SRA Junior Inventory*, Form S. Chicago 1: Science Research Associates, 1957. Pp. 8-9. With permission of publisher.)

has moderate or severe problems in several areas related to school life is in need of assistance, because there are obvious social pressures in the testing situation to inhibit such negative responses.

The "psychological-traits" approach to adjustment diagnosis

This approach to the assessment of personal adjustment is of

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ancient origin in the relatively short history of scientific psychology. It has been extensively used ever since its introduction by Woodworth during World War I. Traditionally it has been more intimately associated with personality description; however, the "goodness" or "poorness" of adjustment status has usually been defined explicitly or strongly implied. Bipolar personality traits like introversion-extroversion, ascendance-submission, and the like were found in the early versions of the traits-approach to personality assessment.

Although any form of behavior may be used to assess an individual's trait tendencies, the usual and most popular instruments take the form of a questionnaire. Items like the following are common. "I have frequent headaches," to which the pupil responds with a "Yes," or "No," or a "?" if in doubt. "I have difficulty going to sleep at nights." "I worry more than most people." Responses of "Yes," "No," or "?" to several hundred of similar items are usually scored and combined in standardized ways to provide scores on the several traits of the tests. These scores are then compared against the responses of some representative population.

Although the trained clinician in psychology is equipped to interpret the data yielded by a traits-approach to personal adjustment, it seems doubtful that the average classroom teacher will have the necessary training or experience. The psychological-traits approach is briefly noted in passing because the informed teacher may want to defer using such tests (which *are* commercially available) in favor of some version of the "personal-problems" inventory.

This may be a good point in our discussion to warn the teacher against the dangers of careless labeling. It may be comforting to be able to label a pupil an "introvert" and thereby wash one's hands of the responsibility of fostering his social adjustment. However, labeling is a risky business even when handled by experts, and even the trained clinician often finds that diagnostic labeling blinds one to the underlying dynamics of growth and adjustment. The teacher will be wise to avoid classifying pupils as introverted, aggressive, depressed, feeble-minded, and the like—behavioral description related to concrete situations will prove

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more profitable in guiding her own teaching efforts and in transmitting usable information to subsequent teachers of her present pupils.

PUPIL ADJUSTMENT AS EVALUATED BY OTHERS

The self-inventory gives one picture of the pupil's adjustments—his status, as he views it. This is important information, because it foreshadows the ways he will respond to the demands of daily living. Of equal importance to the pupil's mental health and well-being is the characteristic way he is regarded, and responded to, by other people who play important roles in his goal orientations and strivings. For example, the deceptive pupil may regard his evasions and distortions of the truth as justified and perfectly "good" behavior. However, his personal happiness and social effectiveness may be sharply curtailed by others with a drastically different evaluation of this behavior tendency. Because knowledge of "others' opinions" of a pupil's behavior tendencies is so important, it is fortunate that psychologists have developed several systematic methods of collecting this kind of information.

Before we take a look at some of the techniques for soliciting information on an individual pupil's adjustment from fellow pupils, teachers, and other adults, it might be well to identify some of the more prevalent errors in this kind of evaluation and assessment. One ever-present source of error is the respondent's perceptual biases. This source of error is so common that it has earned a special name in the psychological literature—the "halo effect." This label is merely a recognition that an observer tends to generalize his evaluations. If a pupil is a "good" student, the evaluator (especially the one who regards academic excellence as highly desirable) tends to attribute other positive characteristics to the pupil. He is described as a "good sport," a "good influence on other pupils' morale," a "calm and rational person," "always fair," and so on through a long listing of positive characteristics—even though he be below average in everything but scholastic achievement. The "halo effect" also functions in the negative plane. An evaluator who finds a particular pupil deficient in what

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he considers an important behavior tendency (for example, punctuality) will tend to rank him low in all other personal characteristics. There is no sure way of obviating the "halo effect," but it is helpful to remember that it may be distorting our evaluations of others even when we feel confident that we are being completely unbiased and objective. The "halo effect" can be somewhat minimized by evaluating a given pupil on only one personal attribute at a time and then moving on to the consideration of other pupils before going back to the assessment of some other behavior tendency of the first individual.

Another source of serious error in the teacher's ratings of pupils lies in her frequent lack of opportunity to observe the pupil in a variety of recurring behavioral settings. "One swallow doesn't make a summer," nor does one fight make a pupil an aggressive boy. It also seems doubtful that an average adult ever sees some behavior settings important to boys and girls—unless he sneaks a look from behind a one-way-vision screen. The presence of an adult, and the cultural values that he represents, prevents the occurrence of many types of social interaction. This restriction on adult observations makes it important to secure peer ratings—even though the "halo effect" in pupil evaluations is admittedly great. Another moral seems inherent in our discussion. An adult rater should be instructed to refrain from rating a pupil's adjustment tendencies in any area where his observations have been few or possibly tinged by a known bias.

Teacher ratings of pupils' behavior tendencies

There are a number of scales commercially available which teachers can use to rate the personality traits and behavior tendencies of their pupils. None of these scales is widely used by experienced teachers. They require considerable amounts of the teacher's time and the yield in new information seems negligible. The modern teacher is also reluctant to file her ratings in the pupil's personnel folder, because she is aware that negative ratings may bias the perceptions of subsequent teachers long after the pupil's behavior has changed.

A sound argument can be advanced that the *beginning* teacher

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may profit from recording her judgments on one of the better rating schemes. The ratings may alert her to unfamiliar behavior tendencies and help her to objectify her evaluations of particular pupils who appear especially attractive or unattractive to her. For these purposes she may find it helpful to evaluate her pupils on the *Behavior Rating Schedule* developed by Haggerty, Olson, and Wickman (2). This scale is designed to predict undesirable behavior tendencies in boys and girls. It yields a statistically weighted score which permits comparisons with the scores of children known to be experiencing behavior problems at the time they were rated. Each pupil is rated on a five-point scale for each of a large number of behavior tendencies like those presented in Table 8-3. It is recommended that the teacher rate all of her pupils on a single item and then repeat this procedure for each of the remaining items. This practice is followed in an attempt to reduce the "halo effect."

TABLE 8-3. Items from the *Haggerty-Olson-Wickman Behavior Rating Schedule*. The numbers in parentheses are the assigned weightings, the larger numbers indicative of a greater tendency toward behavior problems.*

<i>Is his attention sustained?</i>				
Distracted: Jumps rapidly from one thing to another (5)	Difficult to keep at task until completed (4)	Attends adequately (3)	Is absorbed in what he does (1)	Able to hold attention for long periods (2)
<i>How does he accept authority?</i>				
Defiant (5)	Critical of authority (4)	Ordinarily obedient (3)	Respectful, Complies by habit (1)	Entirely resigned, Accepts all authority (2)

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If the teacher has a strong need to categorize her pupils, the use of some rating approach of a systematic variety may be better

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than haphazard overgeneralizations like "he is a rude and undisciplined boy" or "she is slyly deceptive in all human relationships." However, the teacher-in-training should curb any tendencies she may have toward categorizing pupils' behavior tendencies. She might better emphasize the recording of concrete situations in which she felt successful in influencing instances of positive pupil growth and adjustment. A collection of instances of success will give her a greater feeling of accomplishment, and will undoubtedly be more helpful to next year's teacher.

Pupil appraisals of other pupils' behavior tendencies

Pupil ratings of other pupils are usually collected by *indirect* methods. For obvious reasons it seems undesirable to influence or crystallize a pupil's evaluations of his classmates' personality traits or adjustment problems.

One of the most widely used methods of soliciting pupils' appraisals of other pupils takes the form of "reputation ratings" or "Guess Who?" nominations. Each pupil is presented with a list of personal or behavioral descriptions and is asked to nominate one or more of his classmates as best fitting the description. For example, "Here is someone who is always friendly, has a smile for everybody, and is always willing to do you a favor. Guess who this person is." Each pupil selects one or more of his classmates as fitting the description. (See Table 8-4 for typical items.)

This technique has been employed in a number of interesting research studies (3, 4, 8), and has much to commend it. It is a highly flexible approach in that it can be easily modified to solicit selected kinds of peer evaluations. The teacher can write her own descriptions or construct them from the essays of her pupils on topics like "The person I like best," "The kind of person I would like to be," "Somebody I admire very much," and so on. If the procedure is co-ordinated with an academic assignment, pupils tend to accept it as a regular classroom routine and enjoy the experience. The teacher secures valuable information on each pupil's characteristics as viewed by one of his most important audiences. It is recommended that the beginning teacher try out one of the many variations of this popular approach to personality

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assessment. With experience she will hit upon the most usable variation for her particular interest and needs as a counselor of boys and girls.

TABLE 8-4. Typical items and general format of a "reputation" rating schedule, or "Guess Who" inventory. The teacher may find it desirable to construct her own items for this kind of inventory.

Here is someone who is always gay and a lot of fun.

1st choice
2nd choice
3rd choice

Here is someone who is always fighting or quarreling with others.

1st choice
2nd choice
3rd choice

Here is someone who is always willing to help you with your problems.

1st choice
2nd choice
3rd choice

Observation and recording of pupils' "everyday" behavior

The teacher has an opportunity to observe her pupils as they respond to a wide range of adjustment situations. She cannot fail to note instances of personal and social growth, leadership, social rejection, dependency, aggression, withdrawal and depression, and so on. With experience she can become skillful in anticipating what types of social setting permit a particular pupil to forge ahead and the conditions that lead to unresolvable frustration and failure.

Information from the instruments previously discussed in this chapter will get the teacher off to an early start as an alert and insightful observer. However, in the last analysis she must be able to co-ordinate each pupil's successes and failures with identifiable goal strivings. These identifications will be the first steps toward a behavioral analysis of the antecedent and consequent conditions—the causes and effects. Why is Mary sometimes so depressed and unhappy? Why did Bill start the fight with Dick

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today—when usually they are such close friends? Is there anything I can do to encourage Virgil in his reading? Why does Alice refuse to pay attention on Monday mornings?

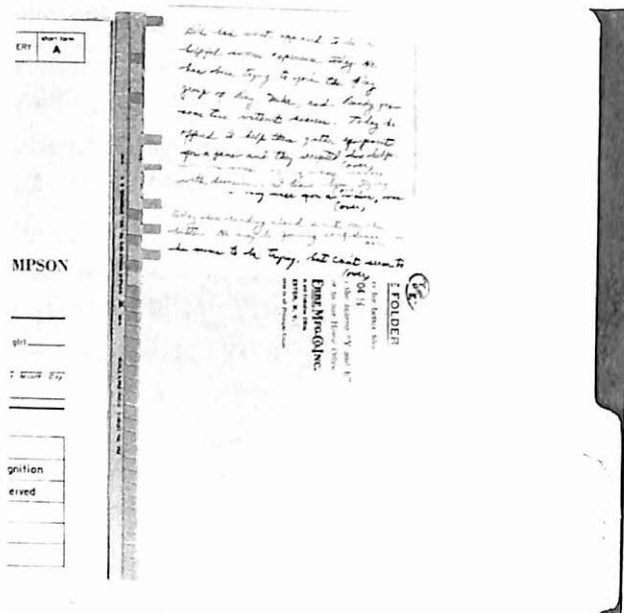
These are significant problems for the conscientious teacher. In order to solve them she must first understand the significant factors and their dynamic interrelationships. Then she can work toward changes in some of the most important conditions in an attempt to alter pupil behavior and adjustment. These efforts will be experimental, for even the most highly trained observer of human behavior will come up with *several* alternative hypotheses, equally plausible as to what can be done to help a given pupil in a particular adjustment situation.

The fact that the teacher must be an experimenter makes it desirable that she keep a set of records for her own guidance and for the other later teachers of the same pupils. Every careful experimenter has his laboratory manual. Although the teacher of many years of experience may feel that she can remember the necessary details, it seems likely that even her memories become fragmentary and distorted with the passage of time. There is an abundance of psychological evidence to document the existence of this human frailty (1).

What kind of records should the teacher-in-training keep? Brief and objective anecdotes will probably prove adequate for her needs. Most behavioral settings can be succinctly described on a 3" x 5" card which can be conveniently filed in the pupil's folder. It seems better to *keep* only moderately detailed records than to *plan* for longer reports which the teacher's busy schedule will not permit.

The content of the anecdotal records will of course vary from situation to situation. However, there are several rules which need to be followed if they are to serve a useful purpose in pupil guidance. The anecdotes should always point toward positive action by the teacher. They may record courses of teacher action that don't prove successful with particular pupils, but even these anecdotes should indicate "next steps" in the guidance procedures. Negatively toned anecdotes are of little value to the teacher and may be injurious to a pupil's relationships with later teachers.

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Inexpensive gummed strips are commercially available for filing 3" x 5" cards in the pupil's personnel folder. These cards are practicable means for filing brief anecdotal records. Consult with your supervisor about the possibilities for installing this convenient system if your school does not already have it. (Courtesy of U-File-M Binder Mfg. Co.)

For example, "Johnny and Eddie had a nasty quarrel this morning. I made them stay after school and told both of them to do their fighting away from school." In contrast, "Johnny and Eddie have both been making up some back work which they missed during the recent 'flu' epidemic. They got into a severe argument over who was going to use the classroom dictionary. The quarrel came to blows. I separated them and worked out a schedule of 'taking turns.' Maybe they are overtired from their recent illness. Perhaps I should have waited a while before asking them to do previous assignments. Note: this is not the first quarrel over the dictionary—Mary and Beth argued about its use last week. I will request another dictionary for the classroom." The latter anecdote does not malign the pupils and points toward reasonable next steps. It searches for possible causes and illustrates the fact that the difficulties of a pupil may have their origin in an unfavorable social situation.

Not all records should be devoted to "behavior problems." The

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modern teacher is just as concerned about the things that pupils can't or won't do as she is about their behavior transgressions. For example, "I have been trying for a long time to get Jimmy interested in our science collection. Every effort has failed. Today I think I may have stumbled onto a successful way. He was watching a tumble bug on the playground and I asked him what kind of bug it was. He gave me a long story about the bug and its habits, and then looked shy and embarrassed about his long speech. I think he may be afraid of showing his deep interest in science. I am going to try to organize an exhibit committee on insects of which he can be a member without taking the center of the stage. I wonder what things can be done to help him relate better to the other pupils?"

Now for a few additional rules. The anecdote should present the behavioral setting as well as the behavior. It should be couched in objective terms with a minimum of emotionally toned adjectives like "mean," "lazy," "willful," "neurotic," and so on. It seems doubtful that the latter type of labeling serves any useful purpose, and may do much harm.

And as previously mentioned, the anecdote should suggest desirable goals for further action on the part of the teacher, or present plausible hypotheses about next steps that may be taken in helping the pupil. Although other rules of lesser importance might be mentioned, the rules presented should help the teacher in her first efforts to make meaningful anecdotal records.

THE PROJECTIVE TESTS

The projective hypothesis in psychology was originally formulated by the renowned psychoanalyst and physician Sigmund Freud of Vienna. It is a recognition that man brings meaning to an ambiguous situation that is consistent with his needs, past experiences, aspirations, and frustrations. He may "project" blame and censure onto other people or even inanimate objects for his own failures and personal deficiencies. He perceives the world according to his own peculiar psychological make-up. He defends his self-esteem by projection and the other defense mechanisms



FIGURE 8.4. An inkblot like the one used in the *Rorschach Test* and one of the ambiguous situations presented in the *Thematic Apperception Test*. (Photo from Henry Murray. *Thematic Apperception Test*. Harvard University Press. With permission.)



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(the latter are described and illustrated in detail in Chapter 18 of this book).

Psychologists have developed a number of very useful instruments for assessing an individual's personality structure and dynamics on the basis of his projections. These tests involve such things as responses to inkblots, ambiguous pictures of human and animal groupings, incomplete sentences, and so on. (See Figure 8-4 for examples of these test items.) Or they may require the individual to draw a picture of a person, a house or some other object important to his daily living or his long-term goals.

The projective tests require special training in psychology for their administration and interpretation. They cannot be given by the classroom teacher. We mention them briefly at this point to alert the reader to their usefulness in assessing psychological growth and adjustment tendencies. If the beginning teacher should find that projective tests have been given to one or more of her pupils by the school psychologist or the personnel of a Guidance Clinic, she must perforce take the interpretations on faith—all of the time checking to see if they make good sense in terms of her own observations.

UTILIZING AVAILABLE INFORMATION ON PUPIL ADJUSTMENT

As the beginning teacher reads through and studies the information in the personnel folders of her pupils (preferably prior to the first day of class), she will be absorbing the distillation of all the wisdoms, insights, biases, irrelevancies, and misjudgments of prior teachers. If she is wise, she will be forming "faint" hunches or hypotheses about an individual pupil's talents, special achievements, frustrations, aspirations, and general adjustment status. These tentative hypotheses will have to serve her as guide lines until she has had an opportunity to make her own observations, collect information with available personality tests, and form her own judgments.

By utilizing the judgments and evaluations of previous teachers she has a good chance of avoiding errors in teacher-pupil relations

and of getting off to a "flying start" as a successful and well-liked teacher. She may be able to capitalize on the advances made by individual pupils with the help of last year's teacher. And she may be able to avoid pouring salt on old psychological wounds. The more quickly she can acquire insights into the adjustment problems of her pupils the better are her opportunities for guiding and promoting personal and academic achievements.

During the school year the teacher has a responsibility to add information to each pupil's record: to qualify old evaluations in terms of more recent evidence, to extend the range of information on adjustment successes and regressions, and to suggest new approaches to counseling and guidance. In addition, she should not be hesitant about seeking special assistance in order to help individual pupils. More experienced teachers may be able to lend a hand. Guidance counselors and school psychologists are valuable resources. Seeking aid from others on a genuine professional level is a recognized mark of maturity, and not a sign of weakness or personal inadequacy.

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Appraising Social Relationships

EACH PUPIL has a galaxy of social relationships. The home is the center for friendly, usually loving, relations and shared activities with parents, siblings, relatives, and visitors. At school new social patterns of behavior are learned in interactions with teachers and other pupils. The increasing tendency for parents to turn over to the school many of their responsibilities for the socialization of the young points up the importance of adequate social skills in our culture. For example, the school now accepts the responsibility for developing leadership, self-confidence, and the like as well as the "social graces" such as dancing and etiquette.

Modern societies provide adequately for the basic needs of man and the necessities for physical survival. Other secondary needs take the place of such primary needs and become important to his happiness and feelings of well-being, as the physiological needs are satisfied. If John is chronically hungry no doubt the "higher" motivations will be obscured. As Maslow says, "It is quite true that man lives by bread alone—when there is no bread" (6).

The most casual observation of pupil activity brings to a focus the importance of these secondary needs, which are often highly social in nature. Many can be satisfied through social interaction. Among the more important ones are affection, approval by others,

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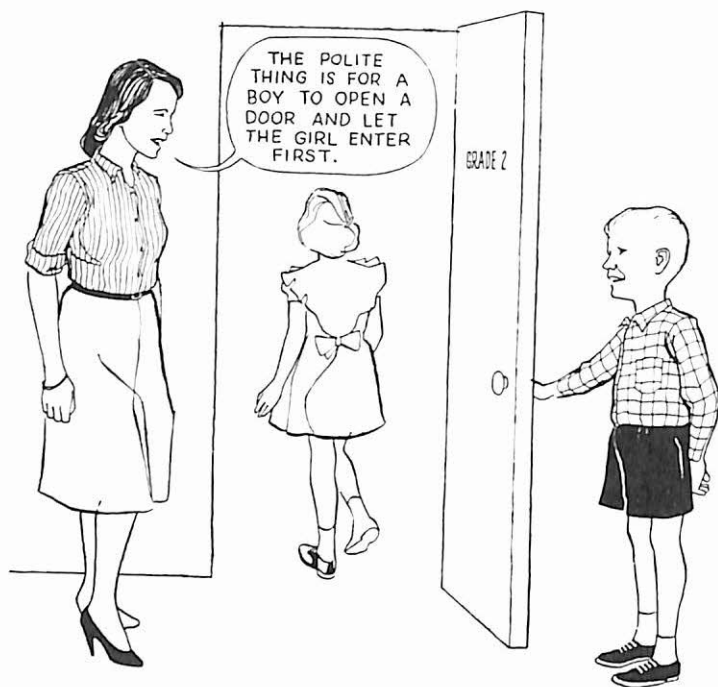


FIGURE 9-1. The school now frequently takes responsibility for teaching etiquette and other "social graces."

self-respect, and belongingness. The pupil feels keenly the absence of friends and lack of a satisfactory role in group activities. In our society the thwarting of the satisfaction of these needs is a commonly found explanation of cases of maladjustment and poor mental hygiene. Children desire strength, achievement, and adequacy in all social situations. They desire prestige, recognition, attention, and a feeling of importance. When a pupil is able to satisfy his self-esteem needs he feels worth-while, strong, and capable of being useful and important in his social world.

The modern teacher can acquire skills that can be used to influence the social interactions within her classroom. A satisfactory teaching procedure must take into account facts and principles relating to both individual learning and group interaction. The teacher must develop an understanding of cause-and-effect relations between group-process problems and individual needs. Acceptance and objectivity toward all members of the group are worthy attitudes for the teacher to develop. Diagnostic insight in

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identifying group problems is essential in her repertory of skills. Especially must she acquire considerable skill in helping the group to deal with its own special problems.

Observing the dimensions of social interaction in the classroom

Membership in groups makes many demands on the young pupil. He is constantly being exposed to new pressures. New things must be tried. He must relate himself to a vast number of new ideals and changing self-conceptions must be faced. The presence of his classmates also provides opportunities for developing new group attitudes and adjusting to new conceptions of others.

The effects of unfavorable pupil-pupil interaction are illustrated in an unfortunate incident created by Miss L—'s lack of skill in using role-playing or sociodrama. After observations in the cafeteria, she decided her elementary class needed instruction in table manners and that a good approach would be through role-playing. Instead of initiating the role-playing with a carefully prepared plan, she abruptly asked her pupils to pretend they were eating in the cafeteria and to use the worst table manners they could think of. This performance was to be followed by a sociodrama of good table manners.

Students satisfy psychological needs through social activity at school.





Illustration of child satisfying the basic need hunger and one satisfying social need of acceptance.



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John, both mischievous and malicious, started imitating Sue. Everyone, including Sue, herself, immediately recognized who was being caricatured. The children laughed. Sue cried. The teacher spent the rest of the year trying to regain Sue's confidence and helping her recover her self-esteem.

The most important skill in obtaining information about group behavior is to know what to observe. It is easy for two people, one skilled in making observations and the other unskilled, to watch the same group at work and "see" very different things. A systematic approach consistent with the objectives of the observer must be used. One might be concerned only with acts of aggression or with the behavior of the group leader. R. F. Bales (2) of Harvard University has devised a set of categories which the teacher may find useful when she is observing the interactions of the members of a small group. He proposes that the observer consider two general categories: (a) task problems which are solved by a series of questions and answers and (b) social-emotional problems which are solved by a member showing either negative or positive reactions.

Within the task area a member of the group may ask for or give information; or offer opinions or evaluations, suggestions, or directions. While the group is giving attention to the task (the primary objective for which the group exists), certain strains may be created in the negative emotional reactions of the members of the group. A member may show negative reaction in several different ways. He may show antagonism and attempt to deflate another's status. He may withdraw from the group and indicate neither approval nor disapproval, or he may flatly disagree. This directs attention away from the task and toward a solution of these social-emotional problems.

Some social-emotional reactions are positive. A person may contribute to the solidarity of the group by giving help or raising the others' status. He may also provide opportunities for "tension release." That is, he may laugh or joke. Finally, he may agree or show passive acceptance.

You can see some of these factors at work in the illustration of a

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small committee working on a social studies project. John asks, "What kind of reference books will we need for our project?" Sally replies, sarcastically, that "anyone with sense" would know a history book is needed. As a result John becomes defensively argumentative with Sally. Tom, anxious to stop the argument and get back to work on the project, makes a funny comment. The whole group laughs, immediately "clearing the air," and then returns to a serious discussion of reference sources.

Bion (9) at the Tavistock Institute also described in an interesting way the kinds of interactions that occur within a group. He proposed three kinds of emotional states that may characterize group interaction: dependency, pairing, and fight-flight. In addition to these emotional categories, he added a category "need to work."

Dependency is reflected in the reliance some group members have on the leader, or the group, to achieve their personal security. Behavior expressed as pairing, either verbal or nonverbal, represents the need of the individual to establish positive, personal relationships with specific individuals within the group or with the total group. As an example of pairing, Sam is a member of a group of six in the science laboratory. He continually works with and confers with Joe to the exclusion of the rest of the group. When Joe is absent Sam appears lost and unhappy. Expressions of fight are reflected either directly, through verbal attack or hostile action, or more subtly by resistance to an idea. The individual who reacts in this way may have a need to resist another member or the total group. Flight, which is sometimes paired with fight, is expressed by leaving the group, daydreaming, or indirectly diverting the group from its real interest.

"Work" is activity which is effectively directed toward some goal and represents the need of the individual to engage in and master problem-solving activity.

Bion stresses that psychological needs are satisfied (or thwarted) through social interaction. In making observations the teacher should attempt to put herself "in the shoes" of the person the speaker is acting toward and then ask herself, "If this person were

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acting toward me (a group member) in this way, what would this act mean to me? What does his act reveal to me about him or his present emotional or psychological state?"

Evaluating the kinds of pupil-pupil interactions

Each pupil is a possible need-satisfying agent for his peers. Sam may think of Jim, one of his classmates, as a loyal friend. In this capacity Jim is satisfying Sam's need for affiliation. Sam's desire for a close friend is being achieved through his associations with Jim. Jim may satisfy many other of Sam's needs as well. Sam may prefer him to all others as a person to consult when he is in trouble and needs sympathy and understanding. On the other hand, if Sam wants someone to help him accomplish a difficult task, he may not care for Jim's help at all. He might like to work with Bob, who is the most efficient and effective worker in the class. Each pupil, through social interaction, is a potential source of satisfying a large number of important needs of his classmates.

In addition to *being* a need-satisfying agent, each pupil is *seeking* individuals who will satisfy his own psychological needs. As just described, Sam's search for a close friend was rewarded by Jim's acceptance of this role. Group members develop expectations of having many of their needs satisfied by certain of their peers. Their happiness and satisfaction with the members of the group depend to a large extent upon their success in gratifying these expectations. When they fail, social frustrations are developed. There are many psychological factors which may predispose the pupil toward social frustration. Joe, with a strong need for a sympathetic friend, may behave in such an aggressive fashion that none of the group will be willing to assume that role. Sally may think of herself as an extremely friendly person, liked by all and serving as a confidant. This attitude may be entirely unrealistic in view of the way she is seen by others. Information about these matters can be obtained in various ways, among them the Moreno sociometric approach (7) and the *Syracuse Scales of Social Relations* (4).

In the process of satisfying his own needs a child may frustrate his peers. Walter, for example, is very attractive both physically

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and in personality. He has all the earmarks of a charming, friendly child. However, he is also very self-sufficient and likes to work by himself. He has no appreciable need or desire to give sympathy, help, or consolation to others. His external personality characteristics are typical of people who have the potentiality for satisfying the needs of others. Consequently, he is a person who is sought out by those needing help. Since he has no personal need to help others, he is polite but condescendingly so. He fails to satisfy those expecting help from him and, in the eyes of some, actively rejects them. Thus he becomes a frustrating agent and some of his fellows react to him in a variety of aggressive ways.

A very desirable situation occurs when two children having complementary needs are attracted to each other for the mutual satisfaction of those needs. Sally, a timid little girl, wants very much to feel that Ann is a friend who will help and support her when she is troubled. Ann, who is very self-reliant, feels attracted to Sally and obtains considerable *satisfaction* from *helping* her. (Compare Ann's qualities with those of Walter in the foregoing example.) The two are able to benefit through their contacts with each other. Each satisfies a need of the other.

Evaluating the kinds of teacher-pupil interactions

Of all the different sources of social influence within the classroom, it is the teacher's behavior which tends to establish the "social climate." In satisfying her psychological needs, her behaviors become important influences in the social growth of her pupils. The pupils react to the presence and behavior of the teacher as they attempt to satisfy their own needs in accordance with their personal values and previous experience. These behaviors of the pupils in turn become the social stimuli to which the teacher responds in her attempt to obtain satisfaction of personal needs and reduction of personal frustration. This dynamic process is continuous and is reflected in all learning situations. As these interactions continue both teacher and pupils tend to think of each other in certain stereotyped ways. The teacher tends to think of John as bright, Sam as unruly, Bill as dull, and Sally as interesting. The pupils also tend to consider the teacher as

kind, attractive, dull, uninteresting, or vicious, depending upon their own particular interactions with her. Attitudes such as these are major factors in all teacher-pupil interactions.

Appraising the social structure of a group

The ultimate aim in the measurement of social structure is to determine the person's social status or position and dynamic interactions within the group. Sociometric measures assess the attractions and repulsions existing within a group. This type of measurement usually involves each member of the group selecting a number of other persons in the group with whom he would like to engage in some particular activity. For example, children in a class may be asked to write down the names of classmates with whom they would like to eat lunch, play, or work. Infrequently it also requires each person to select those individuals with whom he would not like to participate in the activity.

Considerable research has been devoted to the obtaining and interpreting of sociometric data. Graphic methods and quantitative methods, including statistical and matrix methods, have been used. The pioneer work was done by Moreno (7). His approach, leading to the presentation of the results as a sociogram, has had wide use.

A few pupils with the largest number of choices are designated as "stars." The reasons for their being selected are often hard to determine and may vary considerably from one pupil to another. One pupil may select Tom to sit beside him, because Tom is his best friend. A second may choose Tom because he is a good student and will be helpful in doing classwork. A third may prefer Tom because he is a friendly, helpful person whom he can look up to and who makes him feel more secure. An individual who is never chosen is called an "isolate." The teacher should be very careful in her interpretation of pupils classified as isolates. The reasons for a pupil receiving no nominations as a desired person may also be extremely varied. They range all the way from extreme shyness to excessive aggression. The isolate may be a newcomer who has not yet become well acquainted. A "mutual pair"

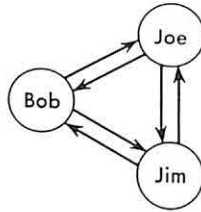
UNDERSTANDING INDIVIDUAL PUPILS

is said to exist when two individuals choose each other. A "triangle" exists when three pupils choose each other.

Choices made and received within two mutual pairs or chums



Choices made and received by three pupils in a triangle



Choices received by a star and an isolate

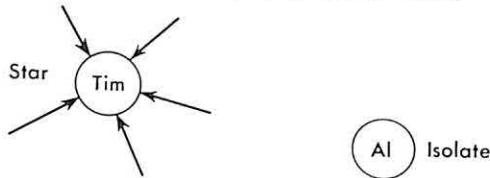


FIGURE 9.2. Diagram illustrating social status of some children.

The choices made in a classroom can be presented in a sociogram. Figure 9-3 shows the tabulation of the choices of a few pupils in a class and the sociogram depicting these choices. As can be seen the teacher draws a chart in which she lists every pupil (squares for boys and circles for girls), and draws arrows to show choices. The first sketch she makes is usually jumbled and confusing. However, the names can be rearranged to put mutual friends together, and the lines shortened between choices. Figure 9-4 shows a sociogram for an entire class of 16 pupils.

From such a diagram the teacher can obtain much useful information. She can tell who are the stars and isolates, and the number and size of cliques. The pattern often comes as a surprise to the

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teacher. Because 30 pupils may be arranged in 435 *possible* pairs, she can rarely anticipate the detailed social structure. She may have noted certain friendships, rivalries, and groupings. She knows that Ellen has been going around with Sue's gang this fall. The sociogram, however, shows that Ellen is only a peripheral member of this clique. She is able to count on friendship from only Sue and is ignored by the other three members.

Pupils are asked to "Put down the name of your classmate with whom you would most like to work on a project."

Their responses may be tabled on a matrix (chart) like this:

	Sam	John	Betty	Sue	Mary	Bob	Etc.
1. Sam		1					
2. John			1				
3. Betty		1					
4. Sue		1					
5. Mary			1				
6. Bob					1		
Etc.							
Total choice received	0	3	2	0	1	0	

And made into a sociogram like this:

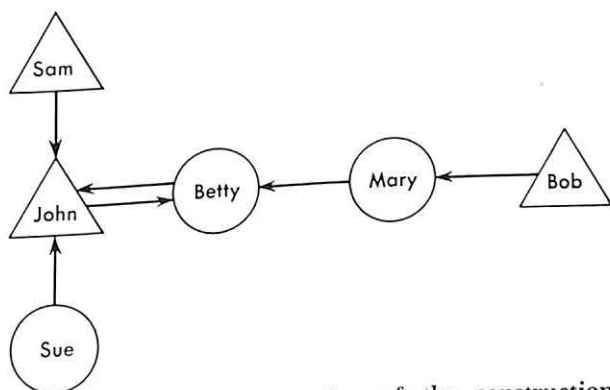


FIGURE 9.3. Simplified illustration of the construction of a sociogram from a table of choices made by pupils in a classroom.

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Since the information obtained from sociometric procedures is based upon judgments of one pupil by another, it is essential that the students know each other well enough to make the required

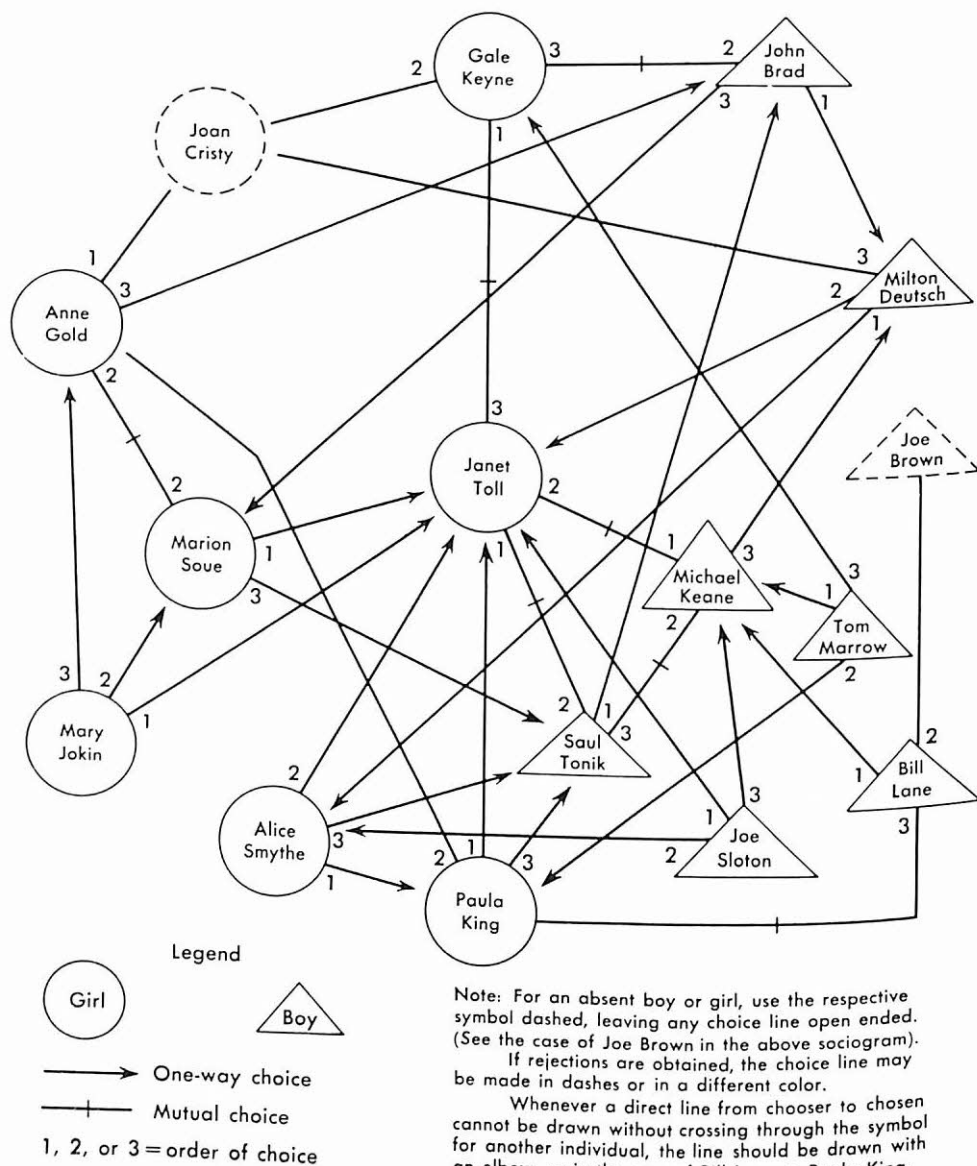


FIGURE 9-4. The social structure of one classroom. The data for this sociogram were obtained by asking each child in the class to make first, second, and third choices among his classmates for a particular social activity. From H. H. Jennings. *Sociometry in group relations: a manual for teachers*. American Council on Education (2nd ed.), 1958, p. 26. With permission.)

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judgments. A sociometric device administered at the beginning of the year is not likely to be effective. If care is taken to explain and describe the procedure, the pupils are usually glad to participate. The teacher or counselor should explain why the questions are being asked. With older pupils she can explain that this information will be used in guidance. She can also explain that if she knows their friends she can try to plan activities where they will work together. The teacher must convince the pupils that the sociometric approach is being used to help them rather than to pry into their private affairs. The procedure may backfire unless the pupils like the teacher and welcome her interest in them.

A new instrument called the *Syracuse Scales of Social Relations* has recently been developed as an extension of the older sociometric procedures. It has several advantages over more familiar methods. Choices are made within situations which indicate the extent to which companions are able to satisfy certain psychological needs. The scales present a *complete set* of mutual ratings where the strength of the selection of an individual to satisfy a particular psychological need is indicated on an 8-point scale. *The Syracuse Scales* elicit frames of reference which lie outside the group being considered so that comparisons of the social relations of different groups on different need dimensions are possible. Reliability has been demonstrated to be of the same general magnitude as that of achievement tests. Figure 9-5 shows the need statement and the people John S. has selected for his reference population. Figure 9-6 shows the ratings made by John S. of several of his classmates. You can see that John gave Carl L. a rating of 80 as a person he would like to talk over his troubles with. He does not consider Carl quite as desirable as his mother but more desirable than Dan.

The kinds of information obtained and their possible use is illustrated in the case of John Jones who is observed by the teacher to be aggressive and unfriendly. He obtained a social relations score of 20¹ on ratings *received* from his classmates and 70 on ratings *made* of his classmates for satisfying the need succorance, the

¹ The scores on the *Syracuse Scales* extend from 5 to 85.

NAME _____ (3) N Suc

	Alice *	Neighbor Jones **	Uncle Joe ***	Dan **	Mother ***			
	LEAST	BETWEEN	MEDIUM	BETWEEN	MOST			
1. Edith A.	<input type="radio"/> Better	<input type="radio"/> Less Good <input checked="" type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	1.		
2. Carl B.	<input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	<input type="radio"/> Less Good <input checked="" type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	2.		
3. Fay D.	<input checked="" type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	3.		
4. Dan J.	<input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	<input type="radio"/> Less Good <input checked="" type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	4.		
5. Karl P.	<input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	<input checked="" type="radio"/> Less Good <input type="radio"/> Better	5.		
6. Joan M.	<input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	6.		
7. Bob L.	<input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	<input type="radio"/> Less Good <input checked="" type="radio"/> Better	<input type="radio"/> Less Good <input checked="" type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	7.		
8. Alice W.	<input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	8.		
35.	<input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	35.		
36.	<input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	36.		
37.	<input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	<input type="radio"/> Less Good <input type="radio"/> Better	37.		
Mid-score Made	10	20	30	40	50	60	70	80
Mid-score Rec'd	10	20	30	40	50	60	70	80

FIGURE 9-5. A page from the *Syracuse Scales of Social Relations* presenting the statement for need succorance and the reference population of an hypothetical pupil. (World Book Co., 1959. With permission.)

Sometimes you get into trouble and you feel unhappy. It might be that you have been blamed for something you didn't do. Think about some time when you were very unhappy and would like to talk over your troubles with some kind, sympathetic person.

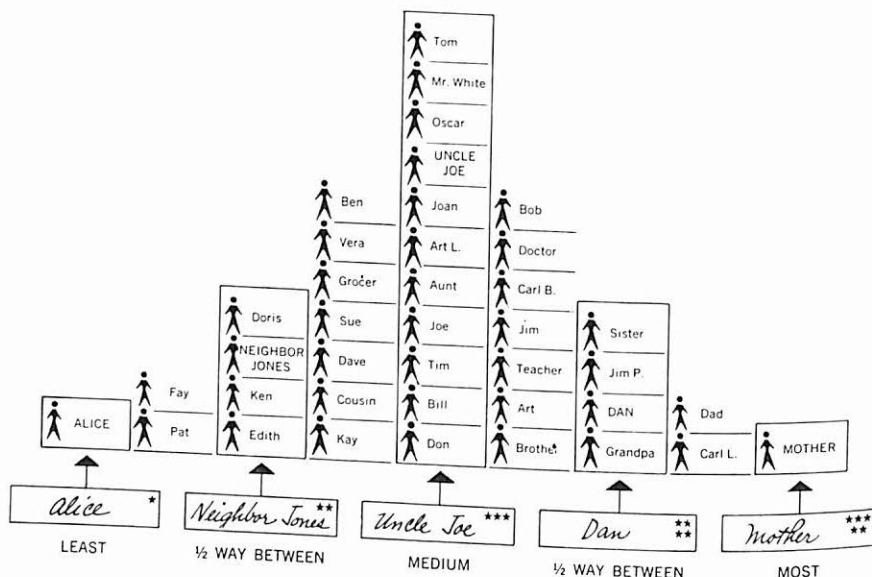


FIGURE 9-6. A page from the *Syracuse Scales of Social Relations* illustrating the use of the *Scales* by John Smith to rate his classmates on need succorance. (World Book Co., 1959. With permission.)

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desire for security and sympathy. He obtained a 30 on ratings *received* and a 60 on ratings *made* for need achievement-recognition. The information provided by the scores on the succorance scale indicates that, if in trouble, John considers his classmates a highly preferred group to go to for help. They, on the other hand, would not prefer to go to John if in trouble. The situation is similar, although not as extreme, with respect to need achievement-recognition, the desire to do everything well. No "patent medicine" remedy is available nor proposed as a solution to John's problem. Tests (intelligence, achievement, and the like) are not designed to provide solutions. They supply information which when intelligently used may lead to the identification of problems and in some instances suggest next steps in their solution. In this instance, the scores suggest probable frustration for John Jones, since he is likely to be rejected when he calls on his classmates for help, and since he selects them as most preferred people from whom to seek help. Such thwarting may result in a direct discharge of tension or displaced aggression. In this example the teacher or counselor may help John to develop personality characteristics more acceptable to his classmates. This end might be achieved through personal conferences, and/or the teacher's arranging situations in which John can become more cognizant of the ways in which he can satisfy the psychological needs of his classmates.

The problem of grouping and class assignment arises at the time of promotion. For the most part only achievement and intelligence are considered in making such decisions. Since the happiness and efficiency of the child is so highly related to his relationships with his group of peers, information about his social relations as given by sociometric instruments is very useful.

Using information about social relationships

Most sociometric procedures are relatively easy for the teacher to use. The information provided is often immediately useful and can be combined with the teacher's judgments and other kinds of relevant material in solving various problems. Such instruments can sometimes help a teacher see her role in the social situation.

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As an illustration of the contribution such information about social relations makes to other knowledge about the child and his environment (i.e., intelligence, achievement, home, community, etc.) let us consider Jane, who tested high in intelligence but low in academic achievement. When administered a sociometric test she was found to be an isolate in all the situations presented to the class. Here was an intelligent girl who was not achieving a reasonable amount academically and who was rejected by her classmates. Her definite dissatisfaction with her school environment was investigated as a possible reason for her academic failure.

Through a series of conferences the teacher found out that Jane felt that her classmates disliked and "were against" her. Hence she wasn't trying to do well in school. The teacher tried to help her become better adjusted and made a point of assigning Jane to work with groups containing pupils who were very friendly outgoing people. After a short period of time Jane responded to their friendly acceptance and became an enthusiastic worker. She became especially friendly with one of her classmates and started to show some improvement in her academic work.

As a complementary example, let us consider Sam who was high both in intelligence and achievement. However, the teacher regarded him as something of a lone wolf, a boy whom she felt should be "pushed" into more social activities. Upon administering a sociometric instrument she found that he was highly regarded by his classmates and that he liked them. This evidence combined with the observations of his characteristic behavior probably indicates that his social needs were minimal and were being adequately satisfied by the group. He was apparently accepted and liked by the group, while he felt the group was able to satisfy adequately his psychological needs. An attempt by the teacher to insist on a large amount of social activity might result in unhappiness for Sam and lower academic achievement. Sam may turn out to be one of those people who will make a substantial contribution to knowledge in research or some other such activity. Society could well lose by attempting to change his interests and activity preferences.

An important function of the school is to maintain adequate

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public relations. Teacher-pupil, teacher-parent, and parent-child relationships are extremely important. Information of the type provided by sociometric devices is often useful in establishing and maintaining these relationships.

As an illustration, Miss Smith received a visit from a mother who was much concerned about her child Jane's participation in play groups and about her general social acceptance. The mother, whom Miss Smith recognized as being an overanxious individual, reported that she had questioned Jane and several children in Jane's class as to how well Jane was developing socially. Miss Smith, upon checking her records, found that sociometric instruments showed Jane to be highly regarded by her classmates. In fact in several situations she was classified as a star. Miss Smith interpreted these favorable scores to the mother and reassured her that she had no need to worry about Jane's social relations with her classmates. In a further effort to allay the mother's anxieties about Jane's personal and social adjustment, she gave a number of examples of Jane's many successes in interpersonal relations.²

One of the problems which frequently confronts the teacher is the occurrence of cliques which are harmful to the class objectives. Cliques which at the time of their inception may be identified through sociometric devices may later so dominate the social environment of the school that even the parents are involved. As one example, let us see how three teachers handled a serious clique problem.³

In G High School, the parents became much aroused against the cliques in the school. These cliques were perceived as exclusive or defensive; they divided the student body and led to many hurt feelings.

The teachers discussed the clique problem in faculty meetings, and, through this means, each teacher saw that he was not alone

² The preceding illustrations in this section are drawn from materials in the *Manual of the Syracuse Scales of Social Relations*. World Book Co., 1959. With permission of publisher.

³ From H. A. Thelen and R. W. Tyler, *Implications for improving instruction in the high school*. In N. B. Henry (Ed.). *Learning and instruction, Yearb. nat. Soc. Stud. Educ.*, 49, Part I, 1950. Pp. 320-321. With permission of author and publisher.

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in regarding this as a problem. Thus reinforced, several teachers attempted in their own way to deal with the problem.

Teacher X, in mathematics, reseated the one important clique in her class so that no two members were together. As a result, communication was driven underground; instead of whispered asides, the clique developed its own signal system, using gestures of various sorts. The problem of communicating became so difficult that the clique members had hardly any energy left for working on achievement problems.

Teacher Y felt emboldened to attack the clique more or less openly. When the members were not paying attention he would call on them. When they laughed at a private joke, he would ask them to share it with the class. Such behaviors, of course, gave the clique further reason and need for existing as a defensive coalition.

Teacher Z never singled out the clique in any way. At a time when the majority of the group seemed rather bored and the members of the clique were talking among themselves, he proposed that the class divide up into small groups for ten minutes and then report suggestions for what steps they should take next. The clique stayed by itself, and the others formed additional groups. At reporting time, the teacher called for reports from the different groups. The clique was the fourth group called on. Their report added only one suggestion to the six already presented. The suggestions were discussed publicly—they were the property of the class, not of the individuals who presented them. The course of action finally adopted was created from elements contributed by several of the smaller groups, including the clique.

A number of interesting changes occurred from this point on. The clique members seemed to do less talking among themselves and more to the class. When the class divided into discussion groups, some members of the clique would sit with other groups. Two of the clique members who had always avoided the teacher came in after school to talk over their personal problems—a significant step, in that they were recognizing themselves as individuals separate from the clique.

The clique did not, of course, break up. It was an alliance caused by problems in the school-wide peer society, not merely a result of events in this class. But it did cease to function as an island of resistance in this particular class, and its defensiveness in the total school group may have been weakened a little as a result of the experience.

Teacher Z succeeded in getting the informal grouping of mem-

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bers of the class to promote the purpose of the formal structure. The closed-session conversation within the clique was probably most helpful for the clique members themselves, but no class problems were solved by this procedure because the clique's self-imposed isolation was perceived by both the class and the clique. The clique just wasn't a part of the class. The teacher did provide four important conditions for assimilation of the clique: He showed the clique how its conversation, expressing aggression against the class, could be made helpful to the class. He gave the class the same privileges of participation that the clique had seized for itself. He reduced the visibility of the clique as a hostile group, and thus rendered clique technique less effective as an instrument of aggression. He made it possible for the clique members to form interpersonal relationships that would satisfy more needs than the need for protection alone.

A number of research studies indicate that teachers generally do not know their students as well as they believe they do. Usually teachers find substantial differences between the view they hold and the one the pupils hold of the same boy or girl. Teachers, naming class leaders, may give undue attention to brighter or more verbal pupils, only to find that the pupils themselves name a quieter, less conspicuous pupil who is more effective in getting things done. Teachers are often very wrong when they try to name the most popular pupils (1). Bonney (3) in checking teacher estimates of popularity against sociometric data found that the average teacher was 45 per cent accurate in her estimates for students of high and average popularity, but only 28 per cent accurate for students of low popularity. Gronlund (5) obtained similar findings in studying sixth-grade classes in Flint, Michigan. He reported a tendency of teachers to overjudge the acceptance of children they personally most preferred and to underjudge the status of those they least preferred. One of the difficulties is that the teacher is unable to put herself in the same frame of reference as the pupils. They are not fully aware of the bases that pupils use to make choices and are not able to see things as pupils see them. The use of a sociometric instrument can give the teacher objective information which will enable her to understand better the dynamics within her class.

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Making a Case Study

A CASE STUDY is the report of an intensive analysis of an individual pupil. The specific purposes of case studies will vary widely as will their completeness. However, their fundamental purpose is to discover the *causes* of the behavior of a pupil who seems to be displaying symptoms requiring special attention. They are the kinds of aid to understanding the individual pupil which help prevent haphazard labeling based on cursory observation of symptoms. Ordinarily the teacher does not prepare a formal case study of a pupil but makes a partial study judged sufficient for understanding the pupil and guiding him toward healthy growth. The case study assures the teacher that all relevant information about the pupil's adjustment difficulties has been brought together in organized form. A most serious hazard in analyzing a pupil's behavior problems is the almost irresistible tendency to label and to treat mere symptoms instead of searching for underlying causes. Little is gained by labeling a pupil "aggressive" when he bullies others or behaves disrespectfully in the classroom. These activities may be efforts to gain attention or to compensate for lack of affection, understanding, and recognition. If the teacher attempts to curb the aggressive symptoms without attempting to alter the predisposing causes, the pupil is likely to shift to other symptoms of hostility.

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Stereotyped labels, such as "nice quiet kids," are often used by teachers to describe pupils who exhibit social withdrawal tendencies. The withdrawing symptom is often overlooked once the pupil is identified as one who causes the *teacher* no trouble. Clinical psychologists are usually more concerned about the mental health of the withdrawing pupil than about the pupil who is mischievous or who flouts strict moral codes.¹

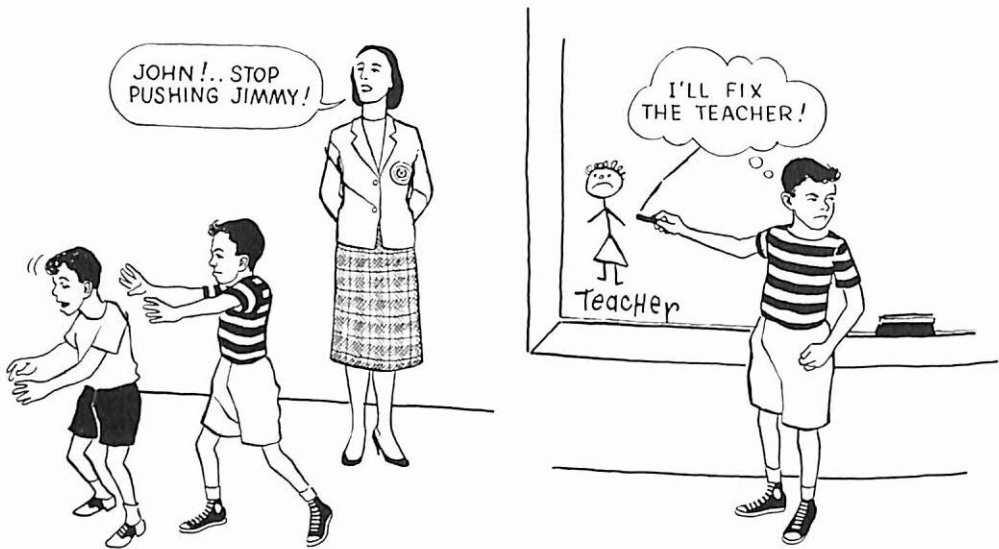


FIGURE 10-1. If a teacher attempts to curb an aggressive symptom without altering the predisposing causes other symptoms of hostility are likely to occur.

In assembling a case study the teacher does not collect information in the formal fashion of a research worker. Rather she attempts to integrate available information and then seeks additional data as needed. Her approach is experimental and similar to that of the general medical practitioner. She collates and integrates the readily accessible information (her own observations plus data from the pupil's personnel folder). She then tries some program of remedial action, and evaluates the results. If the pupil

¹ J. C. Mitchell. A study of teachers' and of mental-hygienists' ratings of certain behavior problems of children. *J. educ. Res.*, 1942, 36, 292-307.



In a case study the approach of the teacher is similar to that of the general medical practitioner. Both obtain information for diagnosis which is followed by remedial action.



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does not make favorable progress, she seeks more information, tries a new approach, and re-evaluates the outcomes. This process is repeated until satisfactory results are obtained or until she judges it desirable to refer the pupil to another person with more specialized remedial or therapeutic skills.

Who should be studied?

Most pupils are fortunately within the "normal" range and present no unusual problems. Other pupils may have difficulties whose causes are so readily apparent that they require no special study. However, some pupils with special or exceptional abilities or with serious behavioral problems require detailed study by the teacher. Examples of such pupils are John, a quiet and retiring boy who begins to stutter; Sally, a junior in high school who develops such an intense "crush" on Miss James, her gym teacher, that she completely ignores her classmates; or Sam, who with the highest IQ in the class and an earlier outstanding academic record now is failing in all his subjects. The case study provides a "whole" view of each of these pupils by integrating his history, experiences, and present condition. It provides a basis for understanding each pupil and for indicating the kinds of help and guidance he needs.

The kinds of information that go into the case study

The case study usually contains information about the pupil's family history, physical development, health, intellectual abilities and progress, social adjustments, emotional patterns, needs and interests. The pupil's personnel folder is a rich source of such information. This folder, which is usually filed in the principal's or counselor's office, contains much of the following kinds of information: age, family, ability indices, results of physical examinations, achievement scores, anecdotal records from previous teachers, school history, and personal and social adjustment records. In many instances there is much duplication of information. These multiple measures of the same characteristic are valuable aids. Multiple indices permit greater confidence in the picture portrayed. For example several IQ's obtained at different times

MAKING A CASE STUDY

provide a more reliable estimate of the pupil's intelligence than a single estimate. Several scores on the same ability over a period of

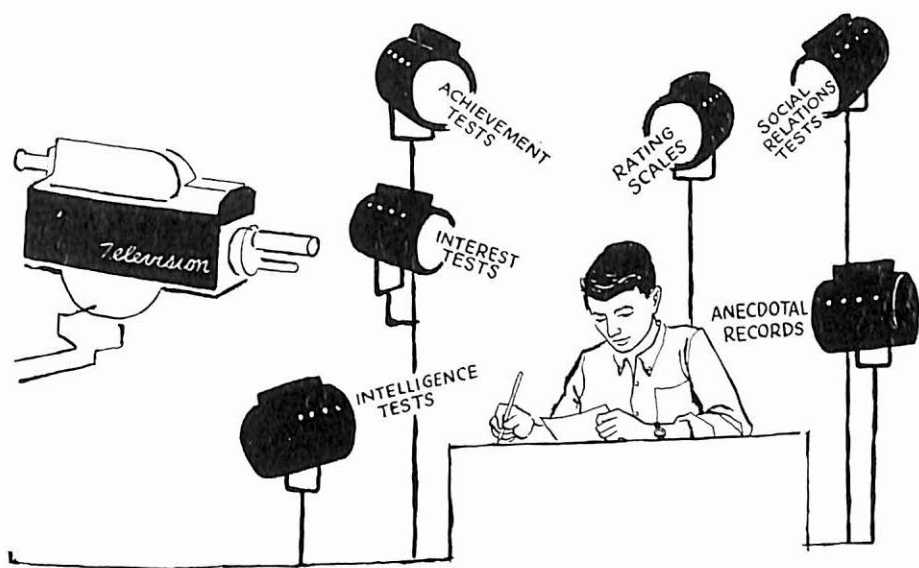


FIGURE 10-2. A case study calls for many different kinds of information.

time also permit an inference about growth or lack of growth. The scores obtained by a child on an achievement test battery administered at different times over a span of several grades indicate the pupil's growth in each of the subjects measured.

In making a case study the teacher tries to obtain as much information as possible about the past history of the pupil. She may have to rely on the reports of other people. Often their records do not contain objective behavioral data. Untrained observers are inclined to confuse matters of opinion and fact. Consider the following report on Julius:

Julius talked loud and much during poetry. He wanted to do and say just what he wanted and didn't consider the right way of doing things. He was rude to me and talked back when I told him he was naughty and shouldn't be allowed to be with the rest of the children. Had to make him sit next to me. Showed a bad attitude about it.²

² Adapted from D. Prescott (Ed.), *Helping teachers understand children*. Washington: American Council on Education, 1945. P. 33. With permission of publisher.

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This is a confused combination of factual reporting and the writer's evaluation and opinions. In fact, the incident as reported gives more information about the teacher who wrote it than about the pupil!

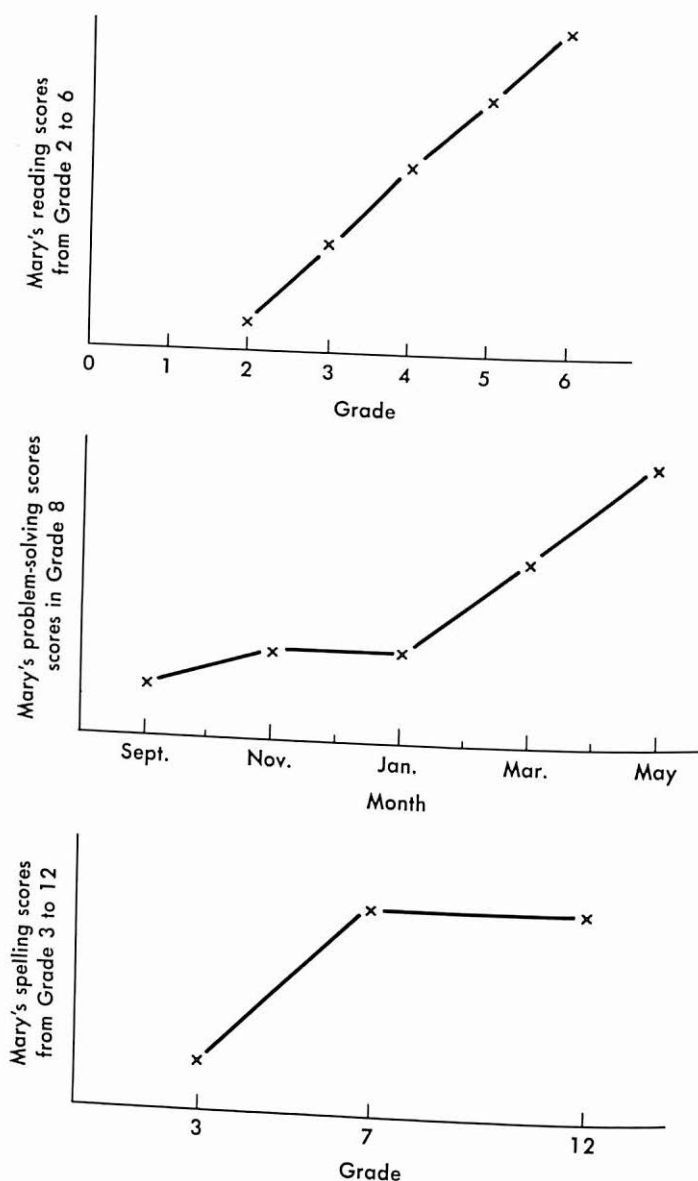


FIGURE 10.3. Growth takes place at different rates and at different times.

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Sometimes teachers fail to select important incidents or they emphasize irrelevant material in their reports. It is natural and inevitable that teachers should notice and remember most readily the classroom incidents of special interest and concern to them. It is also understandable that they should write anecdotes about happenings related to their own preoccupations. However, the most useful anecdotes are those which are directed toward happenings of importance *to the pupil*.

The following is an illustration of an anecdote which emphasizes the teacher's emotional reaction to a pupil:

King's vocabulary is amazing. His current interest and information are wonderful. He is the most unusual and interesting child I've ever taught. . . . King has been feeling fine since Christmas, the same unusual child. He is the only child in my room who really feels like saying anything he wants to me.³

Contrast this anecdote with the following where happenings significant to the pupil are well described:

Sam (age 12) showed a decided preference for Dora today. Asked to help her committee put up curtains. Said that "girls hardly know how to put up curtain fixtures straight like they should be." Painted a picture with Dora. Told me that he would probably learn to paint a little better if he could paint with an artist like Dora. I wasn't so sure. He especially enjoyed our poetry appreciation period. Asked for "Sea Fever," "Moon Folly," and "Overhead on a Salt Marsh." When James asked for "Hiding," he said, "Oh, boy, stop asking for those baby poems."⁴

Much is reported in the pupil's own words. It tells both what was done and what was said. It, along with others, permits important inferences about the pupil's development.

Besides a record of the past history of the pupil a case study includes information about his present situation and behavior. The instruments and techniques described in preceding chapters can be used to obtain whatever information is desirable and well substantiated. Often a picture which seems confusing or unclear is dramatically improved by the addition of more information.

³ *Ibid.* P. 37.

⁴ *Ibid.* P. 39.



ANECDOTAL RECORDS

NAME *Mary Coleman*

SCHOOL *El Centro*

DATE *12-3*

~~*Because she did*~~

~~*not like Jane*~~

Mary took Jane's

book.

~~*Interpretive*~~

Record Only Facts

FIGURE 10-4. Anecdotal records should record facts—not interpretive material. (From *Evaluating pupil progress*. Bulletin of the California State Department of Education, April, 1952. With permission.)

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The teacher may wish to have conferences with the pupil, or arrange for interviews with his parents or other teachers. The most important feature of any interview or conference is the achievement of satisfactory rapport. It is vital to establish friendly relations with those one is talking to and to make them feel that you and they share a common interest in the pupil. Once the confidence of the interviewee has been gained, the teacher is more likely to obtain important information about the pupil.

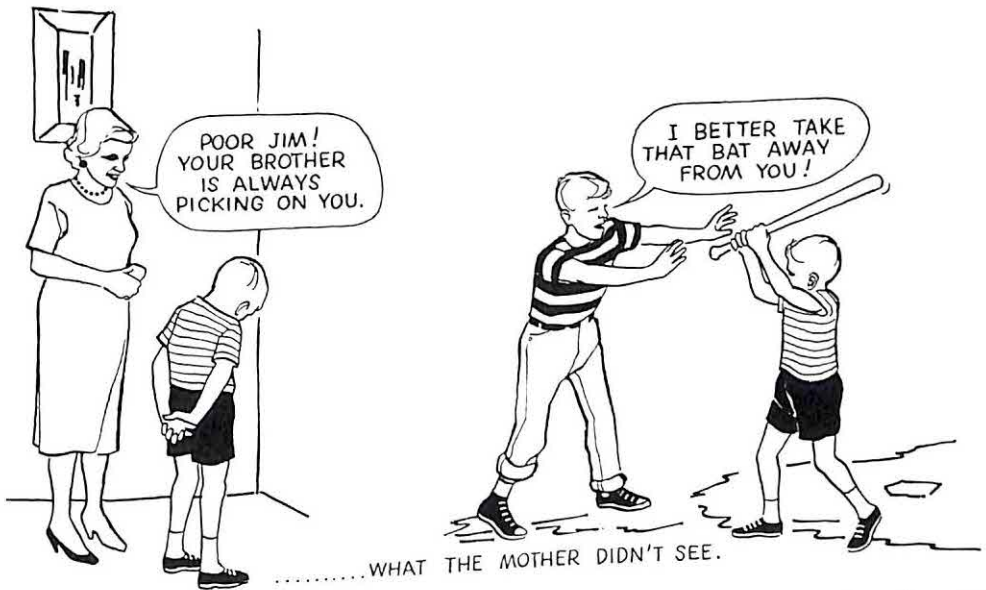


FIGURE 10-5. Sometimes the addition of a bit of information changes dramatically the teacher's interpretation of a case study.

The informed teacher can obtain much help from special consultants: the school physician, nurse, school psychologist, guidance specialist, visiting teacher, speech therapist, reading consultant, and various supervisors. Their special training can be of great service in providing insights into the pupil's behavior.

Interpreting the case study

An adequate case study should promote a better understanding of the pupil. Interpretation of the case study materials, with identification of consistencies and inconsistencies in behavior, is a prerequisite to understanding. For this purpose more than one

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frame of reference is desirable. Three very useful ones are: growth, or changes in a particular characteristic over time; idiosyncrasy, or differences between the individual's performances in various areas at a particular time; and relative status, or comparisons with normative groups of various kinds. The first two use the individual pupil as his own frame of reference while the third uses the performances of others, especially groups of fellow pupils.

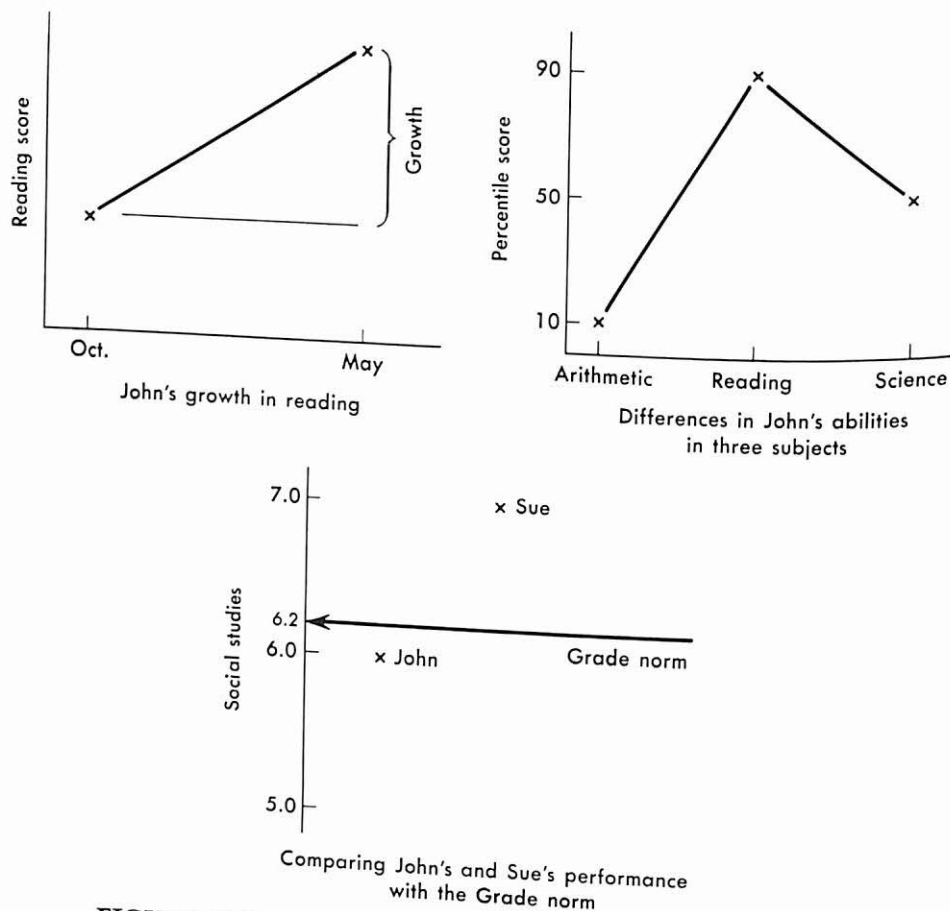


FIGURE 10-6. Interpretation of case study materials is aided by using several different frames of reference.

Johnny's *growth* in reading comprehension can be determined by comparing his performance on a reading test in October with his performance on a comparable form of the test in May. By com-

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paring his scores on these two occasions we can tell how much he has gained or lost in his reading ability. For this comparison to be meaningful it is important that the two tests be highly reliable and comparable. We must use either the same test both times or two forms of the test constructed to give comparable scores.

What are Johnny's relative strengths and weaknesses? This type of comparison Kelley⁵ calls *idiosyncrasy*. We can compare Johnny's performance in reading, arithmetic, science, and social studies provided we have adequately reliable scores which are comparable from test to test. For example, if Johnny has a percentile score of 70 in reading and 50 in arithmetic on the tests of a standardized achievement battery, we would be inclined to say that he is better in reading than in arithmetic. However, the difference in the two scores must be large enough to represent a "true" difference and not just errors of measurement.

Numerous types of scores based on *normative* groups are useful. Many of these have already been discussed in Chapter 4. We can discover Johnny's relative spelling ability by converting his score on a spelling test to grade norms. If he obtains a grade score of 6.5 we can say that he obtained a score comparable to that of the average child who has been in the sixth grade 5 months. If Johnny is in the fifth grade and was tested in late October he shows superiority since the score representative of his grade placement would be 5.2. Let us say that when this score is converted to fifth-grade percentile norms Johnny is at the 85th percentile. We now know that although Johnny did as well on the spelling test as the average sixth-grader, so did many other children in the fifth grade. In fact 15 per cent of the fifth-graders exceeded him.

Thus it can be seen that an examination of Johnny's performance in many fields over many grades and using many different frames of reference can give us needed information about the consistency of his behavior. If a review of his records were to show that he had been above the norm in most subjects in the third grade, below in the fourth, and way above in arithmetic in the fifth we would wish to know why.

⁵ T. L. Kelley. *Interpretation of educational measurements*. Yonkers, N. Y.: World Book Co., 1927.

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After identifying unusual *consistencies* and *inconsistencies* in behavior, a search must be made for the fundamental causes so that reasonable recommendations can be made. All this can take place within the perspective of the information contained in the case study. Again an analogy can be drawn with the case studies of the physician. The doctor considers a "syndrome of symptoms" and by a process of elimination, adding information, and applying treatments finally diagnoses the difficulty. For example, he may be called by a mother who observes a rash on her child. He first observes the kind of rash and where on the body it occurs. If it consists of flat, pink spots that began around the ears and worked down he suspects that the child may have measles. If he now is informed that the child has had fever and cold symptoms for three or four days before the rash began he is more certain. On the other hand, if the rash were a red blush which started in the warm moist parts of the body such as the armpits, groin, and back he might suspect scarlet fever. Confirmatory symptoms would be sickness with a headache, fever, vomiting, and sore throat prior to the occurrence of the rash. The physician makes the best diagnosis possible in view of known symptoms and then begins treatment. Knowledge of additional symptoms either confirms or refutes the original diagnosis and suggests continued or modified treatment.

The teacher's task in evaluating case study data closely parallels the physician's procedures. She is continuously alert for things which go together. There are a number of syndromes related to pupil adjustment. The "nervous syndrome" is usually composed of restlessness, withdrawal or aggression, nail biting, facial grimaces, daydreaming, or reversal in achievement. These kinds of behaviors are suggestive but not conclusive evidence of the presence of frustration and maladjustment. As a second example, the behavior of the indulged overprotected child is frequently marked by disobedience, impudence, tantrums, unreasonable demands, and varying degrees of tyrannical behavior. Various syndromes of symptoms are associated with social adjustment and academic difficulties. One must always keep in mind that nearly any symptom may have many different causes. Since adequate treatment depends upon the identification of the cause not the

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symptom, an adequate analysis and interpretation of symptoms is a vital part of diagnosis.



FIGURE 10-7. The same symptom may be the result of many different causes.

Use of case studies

A case study is usually initiated by a problem that comes to the attention of the teacher. The teacher then collects information, integrates and evaluates the significance of the data by setting up hypotheses and attempting treatment consistent with these hypotheses. Often she makes many false starts. Frequently she enlists the aid of other adults and specialists. The following are two brief case studies illustrating the use of this method in handling problems that arise in the classroom:

Tommy⁶ first came to view as a problem in a third term class in modified English. Most of the other boys in the group seemed pleased that the work was within their grasp. Tommy scorned the work. Most of the other boys were willing to attempt the jobs they were given. Tommy would have none of them. He jeered at the others for trying, kept up a running stream of heckling (of teacher and classmates), and when talk failed to halt the class proceedings, he tried more overt action. He mutinied against all regulations and began to incite the other boys to rebellion against the subject, teacher, program, and school.

⁶ From M. C. Dolan. What made Tommy fight? *Pers. Guid. J.*, 1954, 32. Pp. 357-358. With permission of the American Personnel and Guidance Association.

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When he was finally persuaded to verbalize his grievance, it was discovered that what rankled was his assignment to the General Industrial Program. This was a new curriculum in our school, for boys who could be classified as "slow learners." The academic work was modified and a special shop program was arranged. Tommy had been a contented member of his group during his first year in school when he had no label and was indistinguishable from others of his grade. But in third term, all others in the grade had been allowed to make a choice of vocational shop while the General Industrial boys found themselves assigned to a shop which was to offer work adapted to their ability. He felt a difference in not being permitted to make a choice. He had overheard an ill-advised comment on the General Industrial group made by one of the teachers; he had been teased by other students who cruelly labeled the group "the dumb ones." Now he was fighting back.

Why was he in the Slow Learner course? His application for admission to high school indicated an IQ of 64 on a Pintner B [test] and a rating of *Slow*; this had been the chief basis for classification. Grades of 6.4 in arithmetic and 5.4 in reading (on a Stanford Advanced Test) had been recorded when he was in the first half of his eighth school year . . . Further searching into his record (which had not been feasible before making program assignments) showed that he had achieved an IQ of 81 on a Binet L when in the fourth grade of elementary school. In the sixth grade he had been given a Pintner Nonlanguage Test and had scored an IQ of 92. Examination of an Otis answer sheet and observation during the administration of a reading test showed that his technique in taking any group test was to mark all the answers at random.

When he came to trust us sufficiently, we found that he was completely a non-reader. He could not recognize words in a second or even first grade vocabulary. Although his health was good, his attendance in elementary school had been very poor. His shame at not knowing how to read was so great that he had become extremely clever in disguising his deficiency, and he had used bad behavior as a camouflage. The combination of frequent absence, and troublesome behavior when present, had apparently kept him from learning. Tommy himself transferred the blame for his predicament to others. He was filled with a fierce resentment against his elementary school teachers. Several times he said, "One thing I'm going to do is go back and get even with all of them who should have taught me and didn't."

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Questioning about his background revealed that he was the youngest of six children, with quite an age gap between him and the older brothers and sisters. His father suffered from high blood pressure and was excitable. His mother had been deaf from the time of Tommy's birth and no hearing aids had helped her condition although many had been tried. Tommy himself smarted at the fact that a younger niece could read although he couldn't and tried swagger and bluff to carry off the situation.

What could our school do to help Tommy? It was not possible for him to attend any sort of clinic or receive private instruction; he had to be aided within the framework of our regular school organization. The first step was to give him a change from the scheduled General Industrial to a regular Vocational course. He made an attempt at radio but was handicapped too much by his lack of reading ability. Then he shifted to woodworking, where the work seemed to have a therapeutic value for him. An understanding and supportive shop teacher, whom he came to respect and like, changed the attitude, of the boy toward work, school, and teachers.

Assignment was also made to remedial reading classes with interested teachers who gave him as much individualized help as they could. Here he blossomed. Gone was the heckling, obstreperous, cynical Tommy of previous days. No longer did he voice the hope, "I'd like to kill a teacher or a Russian." Seriously and painstakingly he cooperated with all efforts to help him, showing a new side of his nature to the teacher whose class he had tried to sabotage the term before. He was impatient only with himself, as he worked on such materials as the Dolch Word Cards and the Disney Readers. He even worked harmoniously with a rather unattractive girl who was also a non-reader. It was really another boy!

A special program was worked out for him, with particular teachers wherever possible, so that he was able to meet graduation requirements. He continued to attend remedial reading classes instead of being forced to cope with regular English work which was beyond him, and with the help he received he was able to pass the reading requirements of the Driver Education course. His attendance remained rather poor—he had an out-of-school job which made many demands on him—but his effort when in school was excellent and his behavior almost exemplary.

By his last term in school he could read material on approximately the fifth grade level. He was, and probably always will be, a slow reader, but he had acquired a good method of attack on new words and a large enough comprehension vocabulary to understand

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the words when he had figured them out. He was able to understand and enjoy the adapted text of *Sherlock Holmes*, a daily paper, and such magazines as *Look* and *Life* because the illustrations give enough clues to the text.

An indication of his changed feelings toward school was shown in his seventh term when he brought his father to Parents' Night. For the first time in years he knew that the comments of his teachers would be favorable and he basked in the atmosphere of approval. All through his senior year he remained fearful that the goal of a diploma would elude him. "I can't believe I'm going to get it. Every once in a while I get a bad feeling that I'm not going to graduate."

But graduate he did. Now he is working full time at the job he held while in school—helping an older man establish a milk delivery service. He is working hard and making quite a lot of money. He will never be a bookworm but now he can at least function in the essentials of his business, and can keep records and read the notes his customers leave him. Tommy is so far removed from the violent ambitions of his former days that he came back to school on his day off to see his favorite reading teacher.

Sometimes a problem arises in the classroom which can be approached more effectively by referral to specialized personnel such as the guidance counselor or school psychologist. The following case⁷ is such an illustration:

A pocketbook was missing in Miss Jones's class. This situation introduced Mary to us, who was a ninth grade pupil enrolled in the shop curriculum, a foods major. In attempting to locate the missing wallet, the foods teacher sought to identify the pupils who were nearest the loser. The teacher reported that when Mary was questioned as others of the group, she jumped up protesting that no one was going to call her a thief and get away with it. Further, to the delight of her classmates, she vehemently questioned the teacher's ancestral derivation. Following the outburst, she ran from the class crying and slammed the door.

So Mary came to the counselor's office—a diffident, untidy, slightly over-weight girl of fifteen. Many indictments were born of her resentfulness: everyone at school and home had it in for her. Her mother and father nagged her. The teachers nagged her and she didn't have any friends. What's more, she didn't take the old

⁷ From B. B. Washington. Did counseling function here? *Pers. Guid. J.*, 1954, 32. Pp. 489-491. With permission of the American Personnel and Guidance Ass'n.

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pocketbook, but nobody would believe her. Even her own family were always accusing her of taking things.

Her voice broke. Between sobs she rehearsed an incident of the past year. Without an investigation, her father had beaten her severely on the charge of stealing a purse. When the mistake in the situation was later discovered and the real culprit disclosed, there had been no apology or clearing of Mary. In fact, she stated, her father, in spite of his knowing the truth, had never mentioned either pocketbook or punishment again. "Yes," she muttered, "I got a bad temper just like my father; and you would too if you had to look after four sisters and a baby brother, clean house, do laundry, and never allowed to go places with anyone. I just couldn't help myself this morning in class. Miss Jones was the nicest teacher in the building to me until this morning. I've done my best work in her class. I liked her and now this had to happen."

Following routine procedure, the counselor had the mother in—a rather pretentious woman, over-dressed, even to imitation jewels and furs, moreover, incensed that anyone would implicate her daughter in a theft. However, the picture of Mary's home life slowly evolved, for the mother's story was not unlike the girl's version with, of course, added indictment of her daughter's attitude. Mrs. Thomas complained, "Mary fusses constantly about her home-made clothes and not being able to go to house-to-house parties and neighborhood centers." A supercilious tone crept into her voice when mentioning the community activities. "Of course," she added emphatically, "we do not permit our daughter to associate with children who stay out as long as they want and do as they please. It is a real problem for us to feed and clothe six children on her father's salary. She's not satisfied with the size of the house and the way it looks, yet she never does her share around the house, nor does she spend the time she ought to on her home work. She is just a lazy, irresponsible girl."

Facts of the home background emerging from the conference were: that the father was a custodial worker in the Federal government; that the family lived in a four-room dwelling unit of a public housing project; that Mary shared her room with two younger sisters.

Mary's scholastic aptitude, as shown by an individual and several group tests, was normal, each test placing her approximately at the 50th percentile. On the individual test she showed a mental age of 15 years and 8 months and a chronological age of 14 years and 11 months. Her examiner believed that Mary had sufficient ability

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to do acceptable though not outstanding work. Her progress in elementary school was highly satisfactory up to grade three. At this point her school achievement was marked unsatisfactory. She repeated grade five and had considerable difficulty in the first year of junior high school. Achievement scores in reading and arithmetic indicated a two and one grade level retardation respectively in comparison with the norm for her class. From the achievement test scores, the only pattern revealed was a slightly stronger development in mathematics as compared with that in verbal subjects. Mary's junior high school grades indicated passing but uniformly below average work in everything but Home Economics and General Science.

Her interest pattern revealed strong interest in the social service, scientific, and computational activities; average interest in clerical, outdoor, and mechanical; and low in literary, musical, and artistic. In types of interests, her choices were high in the manipulative and computational. Her level of interest indicated a preference for activities of moderate difficulty.

In the area of personality appraisal her cumulative record gave the following picture. It depicted the counselee as noncooperative, argumentative, stubborn, sulky, in many instances highly suspicious and ready to blame others for her shortcomings.

Thus was drawn the profile. To the counselor there seemed to be two main objectives. One, to help Mary understand and accept her home situation in order to overcome a sense of insecurity. The other, to assist her in clarifying her educational objectives in a permissive and in-sight producing situation.

By the third interview it was evident that Mary was willing to cooperate. She had rid herself of some of the hostility toward the school, although her uneasiness about staying in the home economics group and adjusting to her home life remained. She still resented the discipline of her father, which to her seemed autocratic, and the lack of understanding on her mother's part. In her relations with the foods' teacher there was a paradoxical reaction. Although still suspicious of the teacher, she continually expressed a devotion to her, and a desire to continue under her tutelage. To her, Miss Jones was unfortunately the only teacher she could recall who had accepted her and shown an interest in her progress. Further, the group, following the example of the teacher, had not ostracized Mary. In light of the indicated aptitudes and this situation, it was not surprising that Mary's curriculum choice and occupational interests were in the field of Home Economics.

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Miss Jones cooperated and Mary returned to class with no upset of routine or emphasis on the cause of her absence. She was even being assigned to her former home management duties.

Mary began to realize that her temper was not a matter of inheritance but rather a poor environmental pattern established to dominate and draw attention; one which she was only imitating. Finally, she started to practice leaving the scene when she felt an outburst of temper threatening. When she stopped looking for accusations of dishonesty, she admitted that many of her previous grievances had been imaginary.

As the parents sensed that Mary was making a genuine effort, they became less demanding of her time in household tasks and more lenient toward her social activities. To the counselor, in a later conference, they expressed a recognition that children cannot develop in an atmosphere of physical violence and nagging; that perhaps Mary had been overburdened with the care of younger children, and possibly felt slighted. In Mary's presence they agreed upon an agenda of home tasks with time for study and recreation. Through the placement office, the girl secured for the after school hours a job baby-sitting. This undertaking allowed her to earn money, as well as put into practice some of the theory of the home-management class.

Mary has not achieved a perfect adjustment. She sometimes loses her temper. The home situation is not perfect. However, Mary no longer lives in an atmosphere of family friction and bitterness. To please her family she completes household chores before leaving for school, and attends her classes regularly. She has her own circle of friends, and the security of spending money of her own earning

PART THREE

*Achieving
Optimal Learning
Conditions in
Your Classroom*

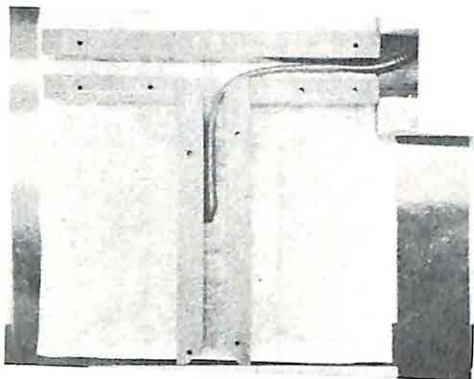
THE CLASSROOM is a dynamic environment. It is a continually changing world with a variety of novel and challenging problems for both teachers and pupils. An understanding of the psychological principles underlying the learning process provides the teacher with an instrument for adapting to situations where a technique is not available or where known techniques do not work efficiently. These principles are the very foundation of teaching methods, of the curriculum and of classroom management.

The school years constitute an important period of growth for the pupil. His experiences at this time influence the adequacy of his preparation for assuming the adult role in his society. The teacher will have little, if any, control over some of these experiences. On the other hand, the teacher is a member of the educational institution. In this role she has the *major responsibility* for guiding pupils toward the acquisition of those skills and objectives of the socialization process related to her subject-matter field. By capitalizing on the principles of learning, together with the principles laid down earlier in this book, the teacher provides a setting in which the pupils' activities lead to constructive effort. Their experiences will *consequently be satisfying ones rather than forms of drudgery*. As you can see, the teacher is properly concerned with how pupils learn.

The Nature and Conditions of Learning

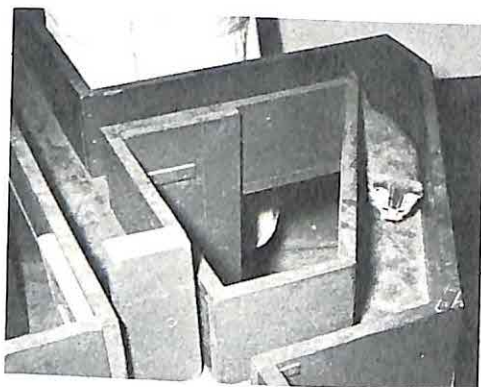
AS A TEACHER, one of your primary concerns will be to provide experiences that will contribute to the pupil's growth. You will be helping him to acquire the patterns of behavior necessary for successful living in his society. However, you and the school will not be the only influences in this process. Learning is not limited to the classroom, or to the teacher's objectives. Pupils learn by whatever experiences they have, whether provided in the home, school, on the baseball diamond, or in the corner drugstore. Some of these changes in behavior may not be beneficial to the pupil. Many will be unnoticed by the teacher, but she is always aware of the fact that pupils in the classroom are learning many things in addition to their formal assignments. For good or ill, they learn attitudes about their capabilities, their limitations, good or poor work habits, and appreciations, and dislikes.

The major difference between the unguided learning experiences and those in the classroom is that the teacher is not just concerned with whether the pupil learns but whether he learns what she considers best for him. She guides his learning experiences. An understanding of the conditions of learning makes her methods and her guidance efficient. Our discussion in this chapter is devoted to the following equally important questions: "What conditions influence learning?" and "What is learned?"



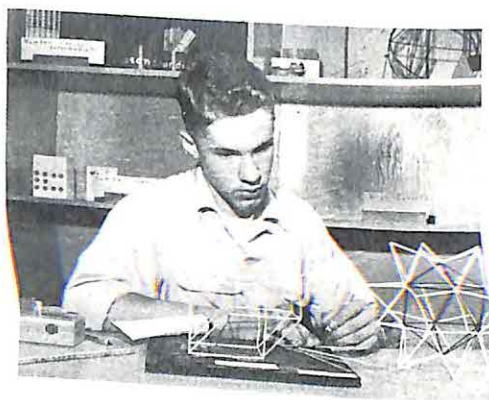
The worm learns to turn right in the maze. Its reward is the darkness of the goal box.

The kitten learns the maze pathways. His reward is food.



The monkey learns some simple mechanical skills. His rewards are the satisfactions of his curiosity and manipulation needs.

The pupil learns complex skills and ideas. His rewards include the approval of others and achievement.



One of the characteristics of all living organisms is that they modify their behavior in terms of success experiences. (Top left, Syracuse University, Physiological Psychology Laboratory; Top right, Pix; Lower left, Courtesy of Harry F. Harlow, Department of Psychology, University of Wisconsin; Lower right, Portland, Oregon, Public Schools.)

THE NATURE OF LEARNING

WHAT CONDITIONS INFLUENCE LEARNING?¹

The activities of pupils and teachers parallel one another but are not identical. The pupil learns. The teacher sets the stage for learning. All teachers have some "theory" or ideas, however vague or incomplete, about what conditions contribute to effective learning. This theory inevitably influences the teacher's methods and procedures. If this understanding is confused, then her teaching is also likely to be confused and unrealistic.

A course of study printed in 1914 for a town in the Midwest contained the statement that "Nothing but drill day after day, week after week, and month after month, will fix these memory facts" (3). This was a course of study in arithmetic. It would not be difficult to visualize the schoolmaster's methods in using this "drill" theory. It would be quite simple, no concern for the pupils' boredom and rebellion, just drill. This approach has at least some merit. Growth in proficiency does require frequent contact with the activity. It neglects, on the other hand, the other important variables in learning, which will be discussed in this chapter. The teacher using a drill approach to learning might unwittingly be an ineffective teacher.

Our illustration is not one which represents a completely isolated instance. Many teachers in the past have believed in such "brute force" in teaching. Others have entertained similarly incomplete ideas of the learning process: some, with regard to the use of rewards; others with regard to permissive classroom atmospheres; and still others with a currently popular fancy. They taught accordingly.

You can see why it is so important to understand the major known conditions of learning and how they fit together in the learning process. The basis of teaching cannot be reduced to the

¹ The prospective teacher who may wish more detailed sources of information about learning processes will find the following related to our discussion: E. R. Hilgard, *Theories of Learning*, (2nd Ed.) New York: Appleton-Century-Crofts, 1956. N. E. Miller and J. Dollard, *Social learning and imitation*. New Haven: Yale Univer. Press, 1941. T. R. McConnell, Reconciliation of learning theories. In N. B. Henry (Ed.) *The psychology of learning*, Yearb. nat. Soc. Stud. Educ., 1942, 41, Part II. A. W. Melton, Learning. In W. S. Monroe (Ed.) *Encyclopedia of Educational Research*. New York: Macmillan, 1950.

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application of a single principle or even two or three principles. In this section we will examine the major dimensions of behavior with a view toward attempting a more complete description of what happens when pupils learn. The several principles of learning will be developed in more detail in later chapters. Whatever these turn out to be we can continually remind ourselves that learning occurs as a result of some activity by the learner. The teacher performs many functions in the learning process, sometimes motivating, other times reinforcing, providing opportunities for practice, organizing activities, monitoring, instructing and guiding pupils.

The pupil as the learner

The teacher must necessarily start with an understanding of the pupil. The pupil is the learner. It is he who goes through the learning process and is the major concern of the teacher (8). He is the one to whom the teacher's methods are directed.

Each pupil makes progress at his own pace. Given the same task and the same conditions of learning, one pupil goes ahead at a rapid rate, another more slowly. Or, one proceeds rapidly at first and then may slow down; while another proceeds at a more even pace. Sometimes two pupils arrive at the same goal, as in the solution of a problem in multiplication, but they reach the goal via different procedures. Similarly, differences may occur in what *can* be learned and in what *is* learned.

Edward C. Tolman has called the factors influencing individual differences the H.A.T.E. variables (10). H designates differences resulting from heredity; A, differences in age; T, differences in previous training or experience; and E, differences resulting from special endocrine, drug, or vitamin conditions, and so on. You can see that differences among pupils in each of these factors would have considerable influence on what they did and what they would be able to learn.

Parents' and teachers' appreciation of individual differences has stimulated special programs for the gifted child, the mentally retarded, the deaf, blind, and other exceptional children. Each group requires its own special methods of teaching which, al-



Many modern schools provide special classes for exceptional children such as those who are physically handicapped, those with hearing difficulties, or those who are gifted.

OPTIMAL LEARNING CONDITIONS

though basically similar for all children, involve important variations from one situation to another. The importance of the case study also stems from a felt need for a fuller understanding of the individual learner, including those pupils who fall in the "normal" range of abilities. The case study promotes broad understanding of the total behavior of the individual and underscores the ways individuals differ from each other.

Gestalt psychologists have encouraged teachers to view the child as a whole—as an integrated person—rather than a composite of separate abilities, traits, or other characteristics. That is to say, the modern teacher does not perceive pupils as being influenced by first one isolated factor and then another. Nor does she perceive his learning just one thing at a time. Rather she thinks of the intricate and dynamic interactions between pupil characteristics and environmental influences. Complex "patterning" is the essence of the Gestalt viewpoint. It conceptualizes learning as taking place as a result of many factors operating in an interrelated way.

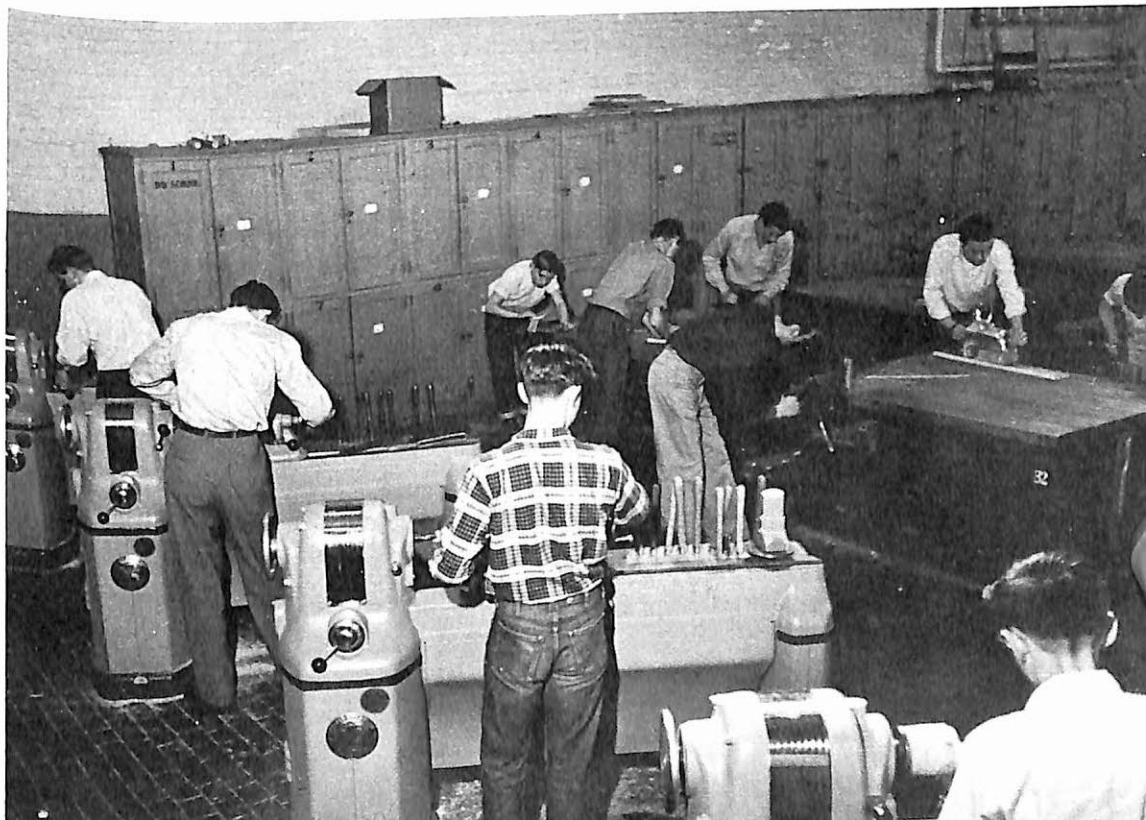
The teacher must take into account the *whole* pupil in mapping her objectives. Not only does she contribute to the intellectual growth of the child but to his physical, social, and emotional growth. The pupil learns not only the factual content taught in the class but also skills, attitudes, character traits, and the like.

The effective teacher adapts to individual differences by providing outlets for the needs of all pupils. She orients her work around the interests of the pupils, while simultaneously making allowances for differences in ability and other characteristics. Schools also make provision for individual differences by establishing separate classes for the exceptional child or classes for remedial work. Certainly, the many curricula in high schools and school systems in general are an acknowledgment of differences in interests and learning capacities. Similarly, levels of training exemplified in different high school diplomas, technical schools, and vocational schools are ways of adapting to individual differences.

Occasionally teachers or schools may choose to ignore the pupil as an individual. Usually this is an oversight. Nevertheless, when it happens, the effects on learning are pervasive and negative.



One of the ways that the school adapts to individual differences is by providing a variety of curricular opportunities.



OPTIMAL LEARNING CONDITIONS

The learner strives to satisfy his needs

The behavior tendencies of a motivated pupil are obvious. They are reflected in such descriptive phrases as, the pupil "is interested," "wants to learn," "is curious," and perhaps, "is anxious to learn." All of these imply that the pupil finds instruction or activity relevant to him in some way and that he is eager to learn. The *hungry* infant learns to use a spoon; the *inquisitive* and *alert* first-grader learns to read; the *socially* needful adolescent learns ballroom dancing, and so on.

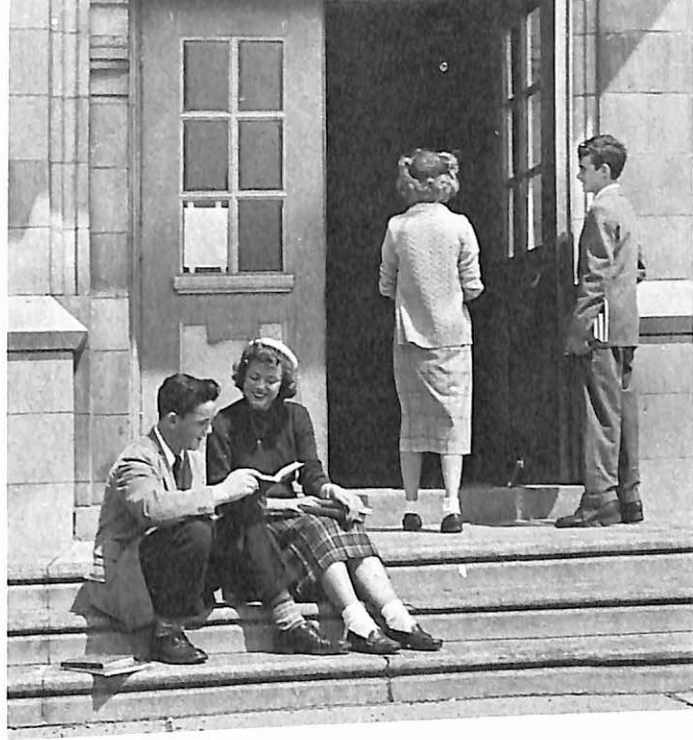
At each developmental level particular needs are dominant and can be exploited. In early adolescence pupils begin to have strong social needs. Here there are opportunities to orient instruction around social skills such as making introductions, getting along with the opposite sex, using correct grammar, and making conversation. In later adolescence economic needs become important. Classwork can be oriented around writing business letters, discussions of how to get a job, how to make out income tax forms, and so on.

Often the teacher is interested in having the pupil learn a particular skill or comprehend a special area of knowledge which is unrelated to the pupil's needs. Much of the school curriculum is only slightly related to the pupil's *present* needs. In these instances, subject matter may be modified so that *some* features are related to the pupil's immediate needs. Ordinarily, a single activity satisfies more than one need. Being outstanding in arithmetic for example, may satisfy a desire for prestige, status, approval, or intellectual curiosity. The effects of learning become more enduring when they are produced by many needs.

The teacher can influence motivating conditions by providing goals that will meet the social needs of her pupils. Many pupils satisfy their needs for adult and peer approval by good grades or diplomas. Sometimes the elementary school teacher has pupils work for gold stars. In other situations the rewards gained from successful competition satisfy the pupil's needs for achievement or independence.

Effective motivating conditions may also be based on pupil

At adolescence heterosexual adjustment is an important developmental task. What new social skills are learned in conjunction with these new adjustments?



interests. (You may want to review the chapter on pupil interests where this topic is covered in more detail.) Teachers can adapt a given subject matter so that it will appeal to any of the pupils' interests with but a little imagination. Consider, for example, the many activities which can be oriented around sports. In computing batting averages, the pupil may learn to do simple arithmetic. The simple principles of algebra may be used to compute a ball's momentum and the distance that it will travel under given conditions. Reading skills may be stimulated by introducing simple sports stories. A certain amount of American history may be learned through sports stories, for certainly sports have played a role in the history of our country. Mental hygiene and physical hygiene can be taught under the rubric of sports. Many other ways in which special interests may be used to motivate pupils are not difficult to bring to mind.

The pupil strives toward specific goals

Let us look briefly at a pupil learning to solve a problem in multiplication. What psychological forces are functioning in this situation? Some are directly related to the immediate goal of

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learning a technique or finding an answer. There is the problem itself with its numbers and symbols. There is an explanation by the teacher showing the relationships between multiplication and addition, for example, that multiplication is the process of adding in groups. There are the comments of other pupils regarding the problem. There is the textbook with its explanations. There are also many other stimuli which are present; related to other goals, some of which may be distracting. The pupil may be annoyed by other pupils in the class, the room temperature may be extremely cold or warm, he may find the work boring or he may dislike the teacher. Many of these stimuli may also be facilitative. The pupil may be physically comfortable, he may find that the comments of others in the class are interesting, or he may experience an excitement in doing mathematics or history.



FIGURE 11-1. Learning is easier for motivated than it is for disinterested pupils.

All of the environmental factors, with the pupil at their center, comprise the total situation. Important factors are the pupil's goals at the time and the effects of previous learnings. Some goals may not be strong enough to attract him; others may be so important that all distracting stimuli are excluded. The pupil

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may find his family problems so pressing that he cannot concentrate on the problems that come up in the classroom. Or, on the other hand, he may find the solution of the multiplication problems so engaging that the roar of jet airplanes overhead is hardly noticed.

One of the teacher's major functions is to establish conditions that facilitate and stimulate the achievement of goals, and to reduce irrelevant and noxious stimuli that hinder learning. Teachers should carefully plan all assignments and anticipate the discussions that will follow. The course material must be carefully organized so that pupils perceive an integrated situation. Classroom conditions should be made optimal for the satisfaction of the pupil's *basic* needs, thereby permitting him to give full attention to activities which are most relevant to an assigned problem.

Capturing boys' and girls' full attention is a major concern of every teacher. She also does everything possible to help pupils use appropriate knowledge and skills in their goal strivings. She attempts to broaden assignments by integrating them with the content of other courses. Or she strives to help pupils see relationships between different units through an over-all outline. These are but a few of the many examples that could be cited.

The learner varies his behavior

Teachers want pupils to read, listen carefully, notice cues (pay attention), answer questions, do exercises, solve problems, and think critically. In short, she wants pupils to be psychologically active. A relatively limited range of activity with well-defined behavior patterns is required for effective learning.

The pupil's behavior is not confined to his overt actions; it also includes his mental and thought processes. A major problem in teaching is to discover the nature of these covert behaviors. You can often accomplish this end by asking questions or engaging the pupil in discussion. The best way to learn what an individual "knows" is to observe whether his actions in appropriate situations reflect the response patterns he is supposed to have learned.

To say that the pupil varies his behavior is not the same as saying that he makes random trial-and-error responses. In most

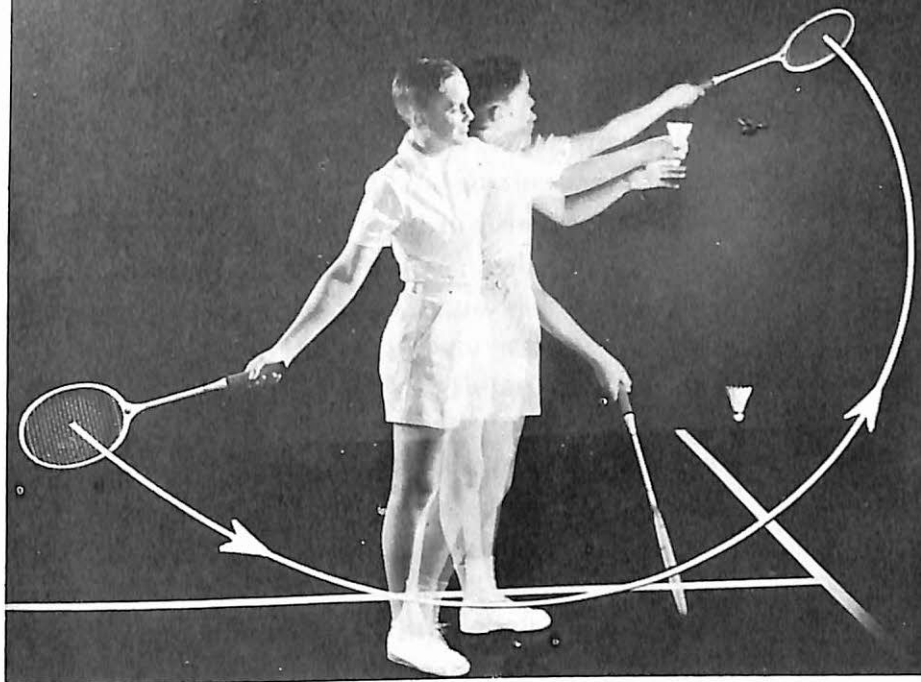
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problem situations pupils have a repertory of alternative patterns of behavior learned through previous experiences. Certain of these will be more useful in a given situation than in others. Some pupils, for example, may scramble to the dinner table or push their way into a movie line without respect for others. These are *dominant* responses based on successful use in the past. Eventually, they may be changed. Society will temper the dominance of these crude behaviors. The pupil will learn more acceptable responses through his own social experience. The behaviors described above are usually replaced by the socially more acceptable patterns of "waiting one's turn" and "ladies before gentlemen."

Teachers generally guide the pupil toward a gradual modification of his behavior tendencies—a little at a time, by small degrees. Most school learning proceeds in this way. The pupil in his arithmetic exercises first learns appropriate responses to numbers, the patterns for addition, carrying these patterns of addition to subtraction, multiplication, division, and so on through algebra, geometry, and higher mathematics. This same gradual building on prior experience occurs in other subject-matter areas. In most cases pupils do not suddenly learn the concepts of democracy and freedom or the attitudes of tolerance and honesty. Many experiences are required. After each experience there is a gradual, subtle, and usually imperceptible change.

When one has practiced an activity many times, it becomes highly resistant to change. Many individuals had this experience when they changed from driving automobiles with gearshifts to those with automatic shifts. They reached for the clutch and gearshift until enough annoyance was experienced with this fumbling so that the action was eliminated. Old habits are difficult to change.

Then there is the question of what an individual will do in a new and unfamiliar problem situation. Prior experience will be important in determining his behavior, in terms of those interpretations of the situation which seem to be most adequate in reaching his goals. A pupil selects and makes "provisional tries" on the basis of past success in similar situations. He tries those approaches that seem to hold the greatest promise of being successful in the present situation.



The smooth series of movements involved in motor patterns are easily demonstrated through filmstrips, diagrams, or slow-motion films. (Courtesy of the Society for Visual Education, Inc.)

Language is intimately tied in with the learning accomplished by the pupil. This is fortunate, for it permits the teacher short cuts in teaching methods. She can give verbal instructions and thereby help the pupil arrive at many new behaviors quickly and efficiently. She can eliminate many incorrect responses by merely telling the pupil what to do. However, verbal instruction alone is frequently an insufficient condition for learning. The pupil must be stimulated to respond. No learning can take place without his *doing* something with the material to be learned; he must think about it, review it, or otherwise work at the assigned problems or exercises.

The effects and results of the learner's behavior

As we have already seen, pupil activity results in many responses and interpretations, not all of which are successful. When solving problems the pupil usually proceeds through several interpretations and alternative solutions before arriving at an acceptable answer. The pupil in an arithmetic class often uses many procedures to arrive at a correct answer in multiplication. Pupils

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make many provisional tries and entertain many plausible interpretations in solving any problem. Some provisional activities will prove unsuccessful in helping the pupil reach his goals. The tendency to use these in the future is thereby reduced. Other responses will be found helpful in reaching his goals. The tendency to display these behaviors in the future will be increased. Consider the pupil in a typing class as an example. He is encouraged to type at the rate of 35 words per minute. He finds that in using the touch system he cannot quite attain this speed. However, as he interprets the situation, he believes that if he looks occasionally at the keys (provided the keyboard is marked) then the desired rate might be met easily. Upon trying this behavior he finds his interpretation was accurate. Thus, the

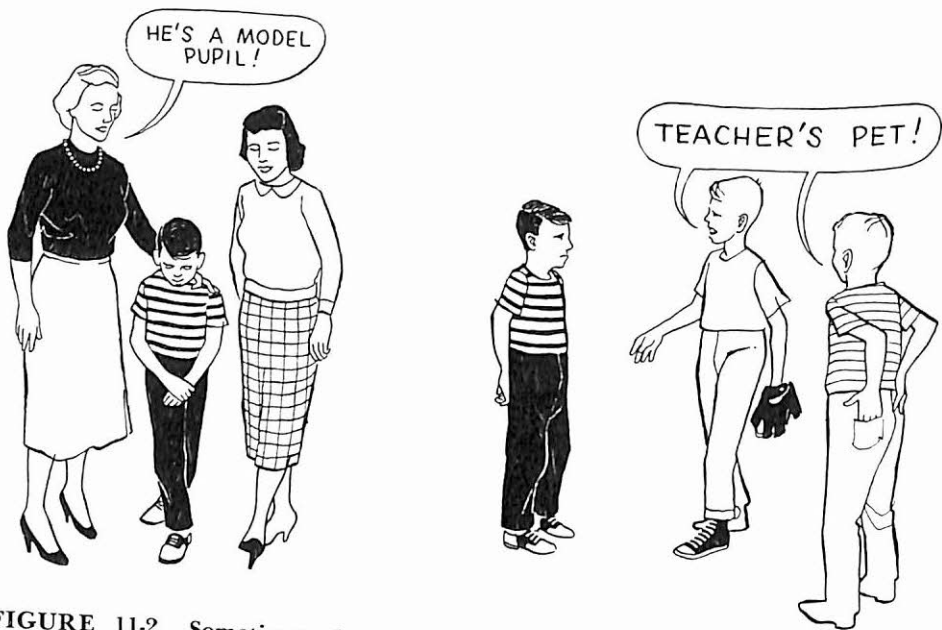


FIGURE 11-2. Sometimes the teacher is unaware that her goals and the pupil's goals do not coincide.

consequences (results) of his action confirm his expectations. The tendency to use the touch system will be decreased in future situations. Looking at the keyboard will be increased, although this practice may hinder his long-range achievement. Tentative interpretations and provisional tries which provide satisfying con-

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sequences will be favored in similar situations in the future. Those which do not accomplish desired results, in terms of expectations, will be abandoned.

The teacher who understands the role of consequences in pupil behavior will not make the mistake of thinking that goals which are important to the teacher are necessarily accepted by the pupil. Teachers, for example, sometimes think that all pupils who earn an A in a course will find this goal satisfying and will be encouraged to study more and more, or at least as much as previously. In reality, a pupil may find that this consequence causes him to be labeled a "brain" or "teacher's pet" or some other label lacking in prestige, and he may do all he can to receive a "gentleman's grade" of C the next time. This illustration may help to explain why some pupils learn inappropriate behavior patterns that are detrimental to performance.

The learner acquires confidence in using new behavior patterns

Observe a child who has just learned to climb in and out of his stroller. He may be quite shaky about this first successful attempt. Of his own accord, he will spend many minutes repeating the activity over and over again. Each attempt is in the direction of improvement over the previous one. Finally, he gains enough confidence in the action so that it becomes a habitual part of his behavior that can be used efficiently and without deliberation. Or consider the young child who has just acquired a new toy such as a nest of barrels inserted in one another. He repeatedly assembles and disassembles the toy. Eventually he is able to perform the task smoothly. Or observe a golfer who engages in similar practice when learning a drive, putt, approach, or other stroke. Most human activity is composed of complex patterns of behavior. Repetition in some form is a necessary condition for many kinds of learning if the specific behaviors, whether muscular movements or ideas, are to be tied together into a co-ordinated, efficient pattern. Teachers in all school subjects require practice so that the pupils will have confidence in using what they have learned. Frequently, it is thought that repetition is a necessary condition only

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in the learning of skills. But practice is fundamental to the teaching of most factual materials, symbols, and arbitrary associations. There is some evidence that certain "emotionalized" attitudes, beliefs, and values do not require extended practice for learning to occur (7).

Practice is most effective when the pupil is highly motivated. The pupil must see its importance in relation to his own goals. Enforced practice, on the other hand, can lead to early satiation, a fact which has been frequently overlooked in the use of drill. When pupils perform under conditions where they are not motivated, they may learn to avoid and dislike other aspects of the situation, including dislike for the teacher and school. They may also learn not to do what is practiced if the consequences are not seen as meeting their needs (2).

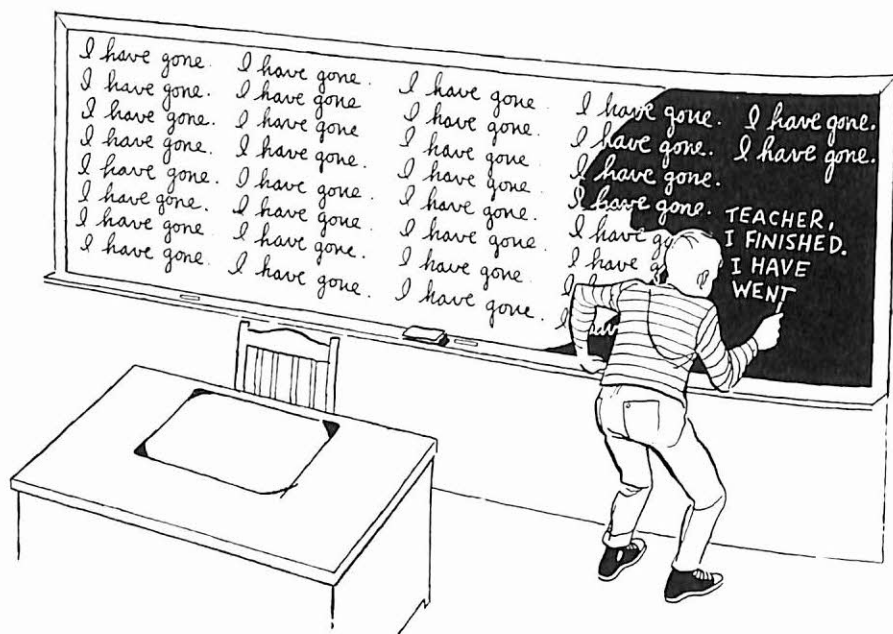


FIGURE 11-3. Unmotivated practice may not result in changed behaviors.

When accompanied by appropriate motivation and knowledge of progress, practice helps the pupil eliminate the incorrect responses and fix the correct ones. Contacts with varied activities

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may provide him with understanding, and thereby reduce the amount of practice required. Pupils may be encouraged to use learned responses in a variety of ways, in new and different situations, and with confidence.

WHAT IS LEARNED?²

The significance of *what is learned* for teaching methods is illustrated by a study conducted in the New York City schools (6). In one group of schools learning was organized around a focus of pupil activity and interest. These were known as the activity pro-



Pupils participating in a planetary science project. The activity program provides training in problem-solving, social skills, arts and crafts without detriment to academic achievement objectives.

gram schools. In another group of schools the subject matter was taught in terms of the traditional prescribed curriculum. The *activity* program devoted about 70 to 80 per cent as much time as did the *traditional* program to the study of subject matter. Achievement in the activity program was only slightly lower in

² The reader who wishes a more detailed source of information about the kinds of learning may refer to E. C. Tolman, There is more than one kind of learning. *Psychol. Rev.* 1949, 56, 144-155.

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the academic fields than in the traditional program. On the other hand, the pupils in the activity program had learned, in the remainder of the time, many things which those in the traditional program did not. They showed important gains, for example, in the fields of arts and crafts and were superior in tests that called for the intellectual operations of problem solving. In addition, pupils in the activity program enjoyed an added advantage of participating more frequently in such beneficial activities as leadership, self-initiated activities, participation in oral discussion, and the like.

What is to be learned will determine in large part what methods are used in teaching. In the New York City schools the activity program made *additional* contributions to broader educational objectives. We will now turn to the many kinds of learning which are taught in the school.

Motor patterns are learned

Motor patterns of response appear to be the simplest kind of learning. One reason may be that they are among the first behaviors to develop. The young child engages simultaneously in many motor patterns such as walking, running, climbing, and jumping. In their earliest forms these activities are relatively primitive forms of behavior. They permit crude adaptations to changing environmental demands. Furthermore, they are one of the primary means by which many of our basic needs are satisfied.

Motor performance is important and essential to an industrialized civilization. Many vocations are dependent on precise motor patterns, including the work of the plumber, carpenter, machinist, electrician, and mason; others depend upon special perceptual-motor talents, such as those of musicians and artists. For most individuals, motor skills play an important role in recreational activities. Wherever skills are involved we find a learned pattern of behavior which can be repeated in almost identical form on any occasion, a characteristic of all those we have described. This feature is present in all skills such as typing, writing, speaking, reading, and driving a car, making our lives more efficient, and providing economy in our behavior.

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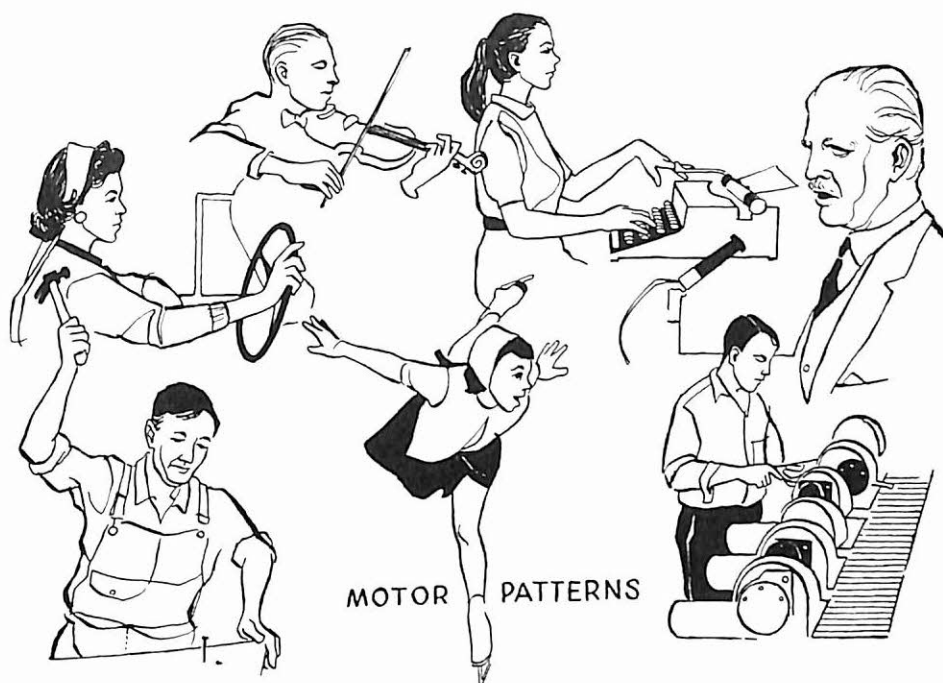
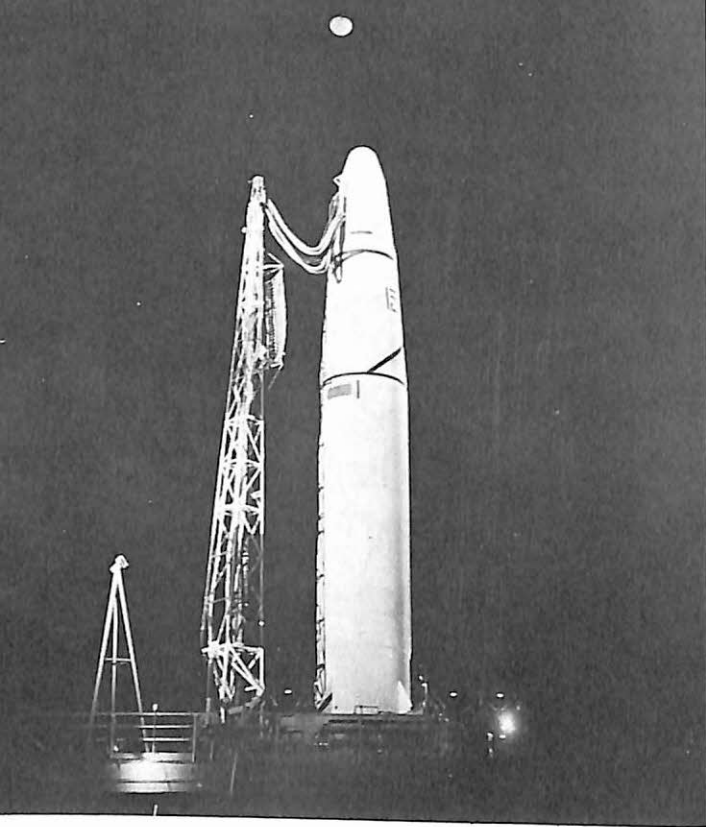


FIGURE 11-4. Motor patterns are fundamental to most vocations and contribute directly or indirectly to the satisfactions enjoyed by all.

Attitudes, beliefs, and values are learned

At a very early age the human organism *approaches* certain situations at regular intervals, for example, the positive goals of nursing to satisfy the hunger need. Other situations are *avoided*, for example, those involving the negative goals of noxious stimulation, such as touching a hot stove. Out of many similar experiences, the pupil acquires feelings of acceptance or rejection toward "objects" in his environment. Some are specific, *concrete* objects as foods, cars, colors, and people that the pupil likes or dislikes. Others are more *abstract* "objects," such as religion, politics, governments, ethics, and nationalities toward which pupils acquire feelings of acceptance or rejection. Eventually, we develop these feelings about most things in our environment, whether contacted directly or vicariously. Some of them are extremely positive feelings of acceptance such as those we have for ethical and patriotic values. Some are strongly negative feelings of rejection, such as those we have for lack of responsibility and dishonesty. For



A new technological development may lead to a modification of our system of cultural attitudes. What existing attitudes were reconsidered by the introduction of the "satellite"?

most objects our feelings will be somewhere in between the two extremes.

Since attitudes influence the future behavior of the pupil, society is particularly concerned with certain of them in the acculturation process. Of particular importance are the attitudes and values about health, interpersonal relationships, democracy, spare-time interests, and attitude toward self. Other cultures have quite different attitudinal requirements which may appear quite irrational to us, but are nevertheless important for getting along in that society (1).

Teachers play an important part in the development of attitudes. They are especially sensitive to attitudes which influence the pupil's learning and which help him to live a satisfying life in the society. The teacher's role is to reinforce existing desirable attitudes and to modify those which are undesirable.

Concepts are learned

Communication is dependent upon the use of symbols and concepts. Man uses language symbols in the forms of words to

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convey the meanings we call concepts. Through such concepts and symbols we are able to experience a baseball game by listening to the radio, almost as though we were present. We know much of what has occurred in previous generations by reading the documents of the historian.

The educational process permits pupils to have very similar common experiences, many of which are indirectly patterned around specific language or mathematical symbols. These represent individual experiences from which the pupil has abstracted the common properties of certain classes of objects. Thus, he may have experienced a blue wagon, blue bicycle, blue sky, and blue car but later he does not have to think of blue in the contexts of these objects. Blue has become a concept, it has a specific meaning that he may apply in a number of situations. Distinctions have also been learned. Blue is certainly a color but it is different from red or yellow. Perhaps, he has also learned that it is a primary color. These meanings or properties of blue define his concept. Concepts may be loosely described as "mental-images" or "mental-pictures" of a thing or action, that is, something concrete. Any classification of concepts is arbitrary; however, one author (9) has attempted to classify the types possessed by children. This classification indicates the vast number of concepts that pupils must learn. There are (a) mathematical concepts of number and space (size, shape, etc.); (b) concepts of time and time relationships; (c) scientific concepts and the methods of science; (d) concepts of the self; (e) social concepts; (f) aesthetic concepts; and (g) concepts of humor.

Since concepts embody everything the pupil knows and has experienced, they affect his behavior in many ways. Accurate concepts facilitate learning. They enable the pupil to solve problems by the correct methods. Through the manipulation of ideas he can arrive at not only correct but also novel solutions to problems. This is essentially the manner in which the inventor operates. Concepts are used in communication, thinking, and reasoning by manipulating the ideas rather than the concrete objects or experiences.

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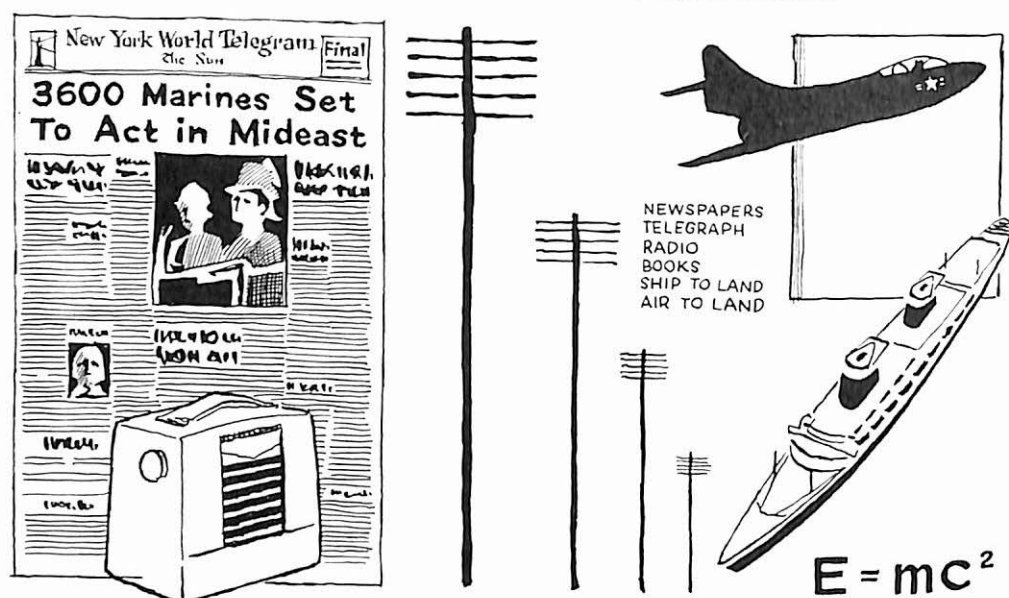


FIGURE 11-5. The effective use of all forms of communication depends upon symbols which convey precise meanings.

Learning how to solve problems

Participation in school and classroom activities does not result in substantive achievement alone. In addition to the development of concepts, attitudes, and skills, another end is reached which may be characterized as a by-product of these experiences. The pupil learns methods, techniques, and procedures that will influence his later performance—an important initial step for effective problem-solving.

The latter outcome has been demonstrated by Harry Harlow of the University of Wisconsin (4, 5). He offered monkeys a pair of objects, differing in shape, size, or color. The correct choice in any pair was predetermined by the experimenter, for example, a red square (correct) might be paired with a blue cylinder (incorrect). If the animal picked up the correct object (the red square), he found a peanut under it. If he picked up the incorrect object (the blue cylinder), he found nothing. The positions of these objects were sometimes reversed, and the correct object might also be paired with a yellow triangle instead of a blue cylinder. At first,

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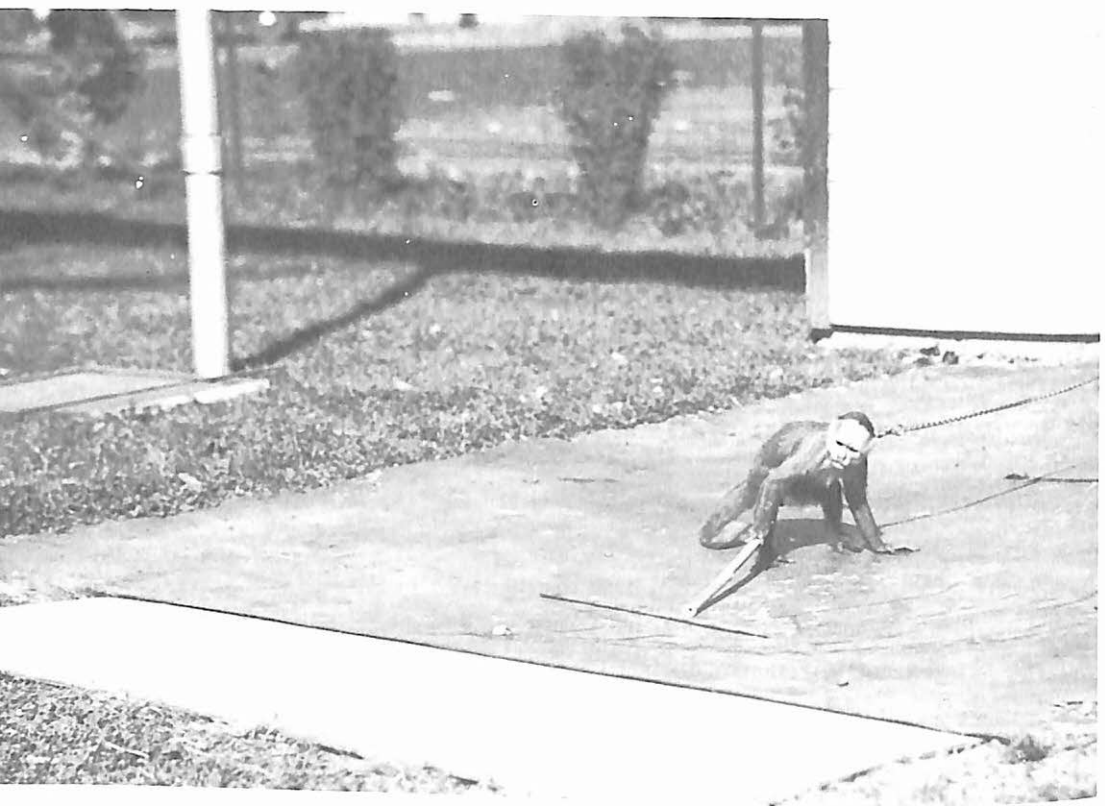
the monkeys had difficulty in solving these simple problems. They seemed to use blind trial-and-error or "guessing" behavior. After 100 or more attempts, however, the monkeys learned to solve new problems immediately after the first attempt. If the object first selected had no peanut under it, the monkeys turned immediately to the other object. They appeared to have learned the rules of the game, that is, the rewarded object, the one with the peanut under it, was the correct one. The improvement was noted even when the correct object was reversed, for example when it was the blue cylinder rather than the red square that was rewarded. The animals had learned "how-to-learn," by discriminating the reinforced from the nonreinforced object.

A similar process appears in classroom situations. Pupils learn how to organize their notes, how to schedule their time in studying and how to memorize. These "how to" processes have been found to be successful. They are the "rules of the game" for efficient work habits.

Learning "how-to-learn" is a relatively unexplored area but is a domain of many rule-of-thumb experts. The "how-to-study," "how-to-solve problems," "how-to-read rapidly," and "how-to-win-friends-and-influence-people" manuals and courses are made available on the assumption that individuals can learn how-to-learn.

Closely related to learning how-to-learn is problem-solving, one of the most adaptive behaviors that pupils can learn. Problem-solving becomes doubly important in the face of rapidly changing technological developments. In view of recent advances, the cultural heritage is not sufficient to provide answers to the urgent questions important to society. New solutions must be found. Because problem-solving is a way of dealing with unanswered questions in all areas of life, it is an element much emphasized in all educational institutions.

Pupils are not taught problem-solving by being given a series of identical exercises (often called problems) for which answers are required. In reality these are merely slight variations of a single problem, which in arithmetic may be division, finding areas or volumes; in chemistry, the balancing of equations; in physics, the routine application of a formula to determine momentum or



Primates are often used as subjects in behavior study. In the pictures above the monkey is observed to further our understanding about problem-solving behavior. He first learns to use the shorter stick to obtain the longer one which, in turn, is used to reach the food shown in the foreground. (Courtesy of Harry Harlow, Director, Primate Laboratory, Department of Psychology, University of Wisconsin.)



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acceleration. As important as practice in these areas is, such exercises require only an application of the same rule or principle which leads directly to a solution. They are not "problems" for which *new* methods and solutions must be found.

Problem-solving begins with unsatisfied needs. There must be a question for which the individual wants a solution. The solution (or goal) is one that is not immediately attainable. Exploration is required in order that relevant prior experiences can be brought to focus on possible answers. Independent experiences are integrated so that several alternative solutions are suggested. Then the individual must identify the best choice for answering his question.

Problem-solving is not so much a different kind of learning as it is a more complex form of learning. Unlike learning how-to-learn, problem-solving requires more than the application of habitual responses, although these habits do influence the learner's efficiency. The integration of relevant experiences is accomplished on the basis of available concepts and skills. The outcomes, as we shall see in later chapters, are influenced by the individual's needs, and prior learnings, including concepts, skills, and attitudes.

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Motivation: Capitalizing on Pupil Needs

ALL TEACHERS have observed the behavioral tendencies of pupils who have a desire to learn. Attentiveness, industriousness, and greater production are much sought after in the school. It is the motivated pupil who attacks problems, persists until solutions are attained, and learns.

Pupil motives may be satisfied in many ways. Three pupils, each with the same desire to be liked by others, may have quite different outlets for this motive. One may try to achieve all A's in his school work; the second may aim to be the life of the party; and the third may aim for superiority in extracurricular leadership. The pupil's energies are eventually directed *toward* something. These are the goals and incentives which provide direction to an activity.

When goals are attained by certain patterns of behavior there is an influence on further motivation. The successful behavior is more likely to be displayed in future similar situations. Several "successes" will tend to fix behavior in a given channel. The "A" student becomes recognized by his peers as the "Brain;" the life of the party, as the "Clown"; and the extracurricular leader, as the "Star."

Each label indicates that peers view these pupils as having a certain amount of stability in their behavior. If viewed in a favor-

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able light, each use of the label would be a sign that the respective behaviors had been successful for these pupils. The attainment of rewards and goals is consequently said to be *reinforcing*.

The teacher may profitably ask the following questions in considering motivation: What are the needs and drives that goad the pupil to action? What goals are sought by the pupil? What is the effect on learning when these goals are reached? Our principal concern in this chapter is to provide a basis for a better understanding of the principles involved in answering these questions. Our discussion will center around the energizing function of motivation, and success, the outcome which directs, reinforces, and fixates behavior (14).

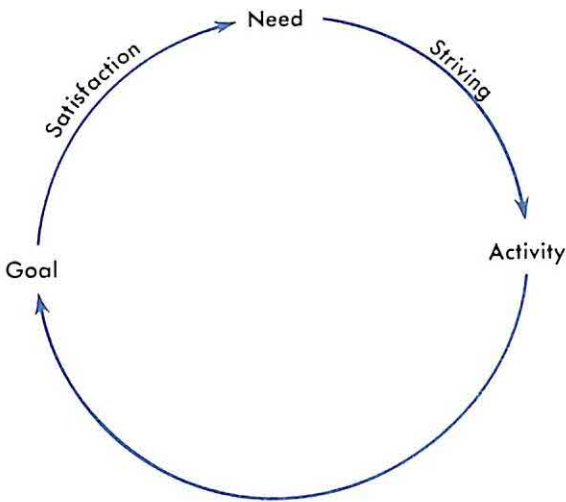


FIGURE 12-1. The stages in the motivational cycle.

(From C. Morgan, *Introduction to psychology*. McGraw-Hill Book Co., 1956. P. 57. With permission.)

The pupil's hierarchy of needs

The organization of basic needs described by Maslow¹ is helpful in understanding the variety of pupil needs, their emergence and their interrelationships. Figure 12-2 presents a diagram of this need system.

If you examine this sketch carefully, you will notice that it

¹ This description is based on A. H. Maslow. A theory of human motivation. *Psychol. Rev.*, 1943, 50, 370-396. With permission of author and publisher.

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forms a hierarchy; that is, the needs are shown in ascending order of emergence. Those at the bottom are of initial importance.

One should avoid the impression that needs form an absolute hierarchy which holds for all pupils. An individual does not gain *complete* satisfaction at one level and then go on to another. Maslow's hierarchy is a kind of ideal description of the way needs

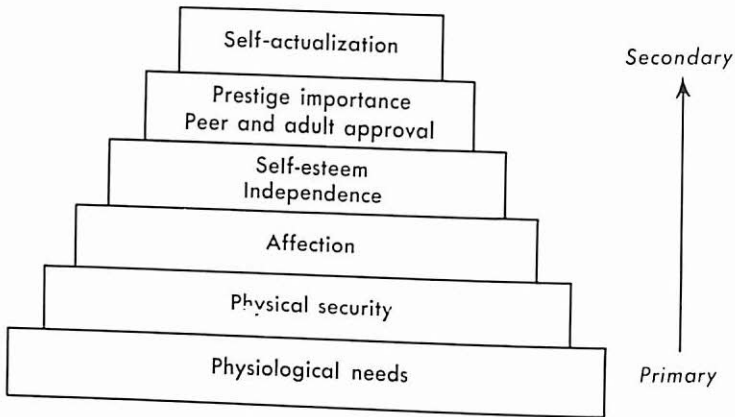


FIGURE 12-2. A pictorial representation of Maslow's "hierarchy of needs." As those needs at the bottom are satisfied, the ones above become proportionately more important.

emerge. From a practical standpoint, as gratification at one level occurs, the next level or levels become proportionately more important. The order itself is not necessarily rigid and in some instances the levels may be reversed.

The physiological needs function to serve the maintenance of the organism. A severe deprivation of food, for example, can preoccupy the pupil to the extent that nothing else is important: any desire to do arithmetic, write essays, and read poetry are pushed into the background. The number of suits he owns compared to those owned by his peers, whether he earns an A or an F, or whether he sees a ball game are entirely without utility since they have nothing to do with getting something to eat. A hungry pupil's perception of his "world" is one almost entirely dominated by food. If he is in dire need, he may risk his personal safety (second in the hierarchy) to get something to eat.

Fortunately, a primary aim of any culture is to provide means of satisfying the basic physiological needs. Severe deprivations of

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the sort we have discussed are virtually nonexistent in our society. They become important only in times of extreme emergency—during war, famine, and the like.

The second of the personal needs is that of safety. Pupils want to have a stable, orderly world on which they can depend. Our preference for the familiar and our relative uncertainty about unfamiliar things are reflections of this desire. It is also apparent in the value our society places on physical security and is indicated in our willingness to support research on health problems, to get regular physical examinations, to carry accident, health, and life insurance. An unfair teacher, inconsistency in parental behavior, divorce, sickness, or death in the family all tend to make the pupil's world seem unsafe. Speaking to the pupil harshly, shaking him, or other rough treatment were often used as motivators in the classroom of the past. Their success depended on the pupil's desire to avoid threat to his need for safety. Inasmuch as this motivating source was derived from the production of anxiety (a vague fear similar to worry), this practice is now viewed as undesirable. An orderly, consistent, smooth-running classroom can do much toward providing a stable and nonthreatening atmosphere.

At a very early age children want to receive and give affection. They seek affection from their parents, siblings, and others. They may have pets which they nurture. Children who are not loved frequently develop symptoms of maladjustment (17). This need for affection probably arises in early infancy and like the other basic needs is essential for a firm foundation on which the achievements of the individual may grow.

Of most importance to the classroom teacher are the fourth and fifth steps of the hierarchy. Here is an extension of the social needs which first began to emerge with the desire for affection and belonging. As the child grows older his relationships with others become more involved. He searches for confidence in his own ability. He wants to achieve and to be adequate to the demands put upon him, including those of his own ambitions. Most adolescents have a strong need for independence, although this tendency usually appears long before. Achieving independence is often a reflection of the pupil's adequacy and confidence. The

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pupil who does not satisfy this need is likely to feel inferior and inadequate. A proper development of self-respect is grounded in the attainment of the basic needs of love and affection. Many goals in the classroom can help the pupil to satisfy the need for self-esteem. Through classroom activities he is enabled to recognize what he can and cannot do; his confidence in himself is influenced by his successes and failures. Consequently, this need for self-respect is one which the teacher can utilize effectively in motivation.

Another facet of the need for self-esteem is that of attaining recognition, appreciation, or prestige from peers or adults. Getting along well with others is a desire at any age. Some pupils have learned to seek adult rather than peer approval. Pupils who have little of this latter need may find it difficult to get along with others of their own age. Generally, however, the desire for approval is sufficiently present in most pupils and can be recognized by the satisfactions derived from social recognition.

The final need in the hierarchy is the most complex one. Self-actualization is oriented toward the pupil's total environment, his capacities, relationships with others, and the exploitation of opportunities for his fullest satisfaction. The individual at this level is not happy until he does what he is best fitted for. He may desire to enter a particular vocation because that is his "ideal" in life, or as the American author Dos Passos once said: "There never seemed to be any other occupation." [*sic*] Self-actualization is a most important factor in adjustment. We discuss it at greater length in Chapter 22.

The levels in this hierarchy are highly interrelated. Activity at any one may influence needs at another level. If he lacks affection, for example, the pupil may find that overeating is an alternative satisfaction. If status and achievement needs are not sufficiently gratified or if they are threatened, they may interfere with the digestive processes.

The teacher who does not understand the functioning of needs may work against the pupils' best interests in her attempts to motivate them. She may withhold affection by purposefully rejecting the pupil or threaten his attainment of prestige by giving him impossible tasks to accomplish. Remarks such as "The other

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pupils won't like you if you don't stop annoying the class," or "Your brother John can do these problems, why can't you?" may have similar negative effects. In a temporary and limited way, these actions and comments of the teacher may have a positive effect on learning, discipline, and other behavior. The invariable result, however, is a threat to the pupil and an increase in his anxiety. The undesirable effects on personality and adjustment are obvious. If she understands the pupil's needs the teacher must recognize that they demand satisfaction. Pupils can be guided toward satisfying goals. Individual pupils may be at different levels and they may have different desires, but all have the potential for being motivated if their needs are but used as a focus for motivation. These objectives can be reached, directly or indirectly, in the classroom.

Pupil goals become general behavior tendencies

The pupil's needs become relatively stable and fixed, but goals and rewards are forever changing. New ones are acquired and old ones are altered.

Studies using various species of animals help us to understand the development of rewards and goals in their most primitive form. Wolfe (21) has shown that chimpanzees learn to work for poker chips which they can later exchange in a vendor for raisins. The value of the poker chips was learned in two stages. The hungry chimp first learned to work for a raisin reward. Later, his efforts, were rewarded by a poker chip instead of the raisin. When the chip was given to the experimenter, the chimp immediately received a raisin. Chimps learned to do this quite readily. Later they learned that different colored chips could be used for different purposes. For example, a white one could be redeemed for food, a blue one for water, and a red one for being let out of their cages and permitted to play. It was shown that they worked hardest for the ones which would satisfy their most important needs at the time. If they were hungry they worked for white chips; thirsty, for blue; and when needing activity, for red. The previously indifferent objects acquired a potential for satisfaction; they became rewards in their own right.



Subject Kambi is exchanging a token for a grape in a "Chimp-O-Mat" in very much the same way that we use vending machines. By this process the token soon acquires the properties of a secondary reward. The token can then be used to reinforce behavior in new learning situations. (Courtesy of L. J. Peacock, Yerkes Laboratories of Primate Biology, Orange Park, Fla.)

Cowles (2) extended this experiment to show that the chimps would hoard up to 30 poker chips before they were exchangeable for food. Not only did they work, but they also *learned* new behaviors to get these rewards. They learned to tell the difference between sizes of objects, colors, and patterns. The value of the poker chips even extended to other chips of a different color which could *not* be redeemed for food, although they did not work as hard for the other chips.

Other studies (9, 15) indicate that the goals in most human learning, like the satisfiers of the needs for affection, belonging, and esteem, are probably learned in a similar fashion. Money is an example of a reward which may satisfy many needs. As long as it satisfies our basic needs it is satisfying. When it loses this potential (as frequently happens in national economic crises), it becomes just so much paper.

The experiments we have just described provide evidence that goals are learned. Now we turn to the way preferences for goals are changed. Children entering adolescence no longer find a pat

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on the head from the teacher, or other forms of adult approval, as rewarding as a cheer from their peers. One study aptly illustrates this point (18). Children were asked to rank, in desirability, 20 trinkets (which could be used for making a bracelet) and a cardboard square. They always ranked the square (token) at the bottom of the series, for it had no real value to them. Then they were told that it could be dropped in a machine and thereby exchanged for a trinket which they had previously ranked high in preference. After they had exchanged the square of cardboard for a trinket 16 times, they were asked again to rank all of the trinkets and the token. They were also told that they could have either the trinket or the token. The token which previously was chosen last was now found to be preferred to a greater extent than most of the other objects, particularly those which had previously been ranked last.

We see from the foregoing discussion that rewards vary in importance according to their perceived value. Pupil preferences for goals are altered as new ones are found to be more satisfying. Our preferences for food remain the same as long as they retain the same ranking as successful satisfiers of hunger. When we have an unpleasant experience, such as nausea, with a given food then other foods may be preferred. Some prefer certain colors in clothing while the same colors are distasteful to others. Success in dramatics leads the individual to the goal of participating in many dramatic activities. Success in sports leads to participation in athletics.

These observations facilitate an understanding of children's motives in the different social classes. Howard L. comes from an average middle-class home. He is encouraged to achieve good grades in school. A's on his report card bring praise from his peers and his parents. Because of his scholastic success he is permitted to engage in many extracurricular activities. He may belong to the editorial staff of the school newspaper. He is permitted entrance into club membership and school fraternities which put an emphasis on scholastic achievement. Howard is like many other pupils from the middle class. These privileges are evidences of success. The "mark" can be "exchanged" for many other rewards.



The differential rewards of the social classes
reinforce different behavior patterns.



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Like other middle-class pupils, he learns a socially adaptive fear of receiving poor grades in school, of being aggressive toward the teacher, and of fighting.

Peter S., on the other hand, comes from a lower-class home. When he brings his report card home, little if any attention is paid to it. Frequently he may sign it himself. His parents do not attend school functions or PTA meetings. If *anyone* notices his good grades, it may only be productive of social stigma, particularly by his crowd or gang. Time spent in studying may interfere with other neighborhood activities. In fact, it may be taken from activities common to the rest of his peer group. The

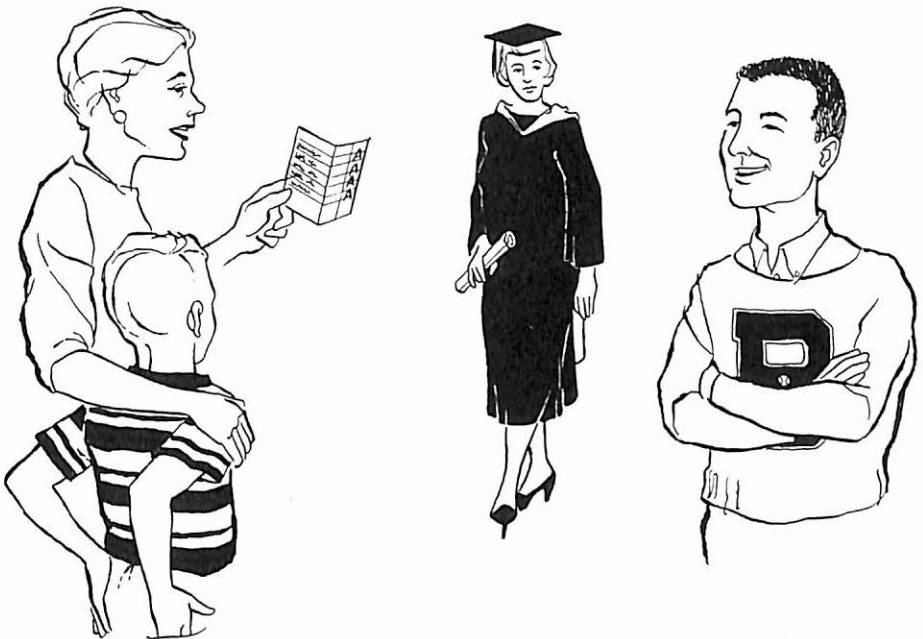


FIGURE 12-3. The "A" grade, the diploma, and the sports letter are among the rewards available in the school situation. Pupils work toward these goals because each has the potential for satisfying the needs of approval, achievement, independence, and the like. Incentives not related to needs are worthless as motivators.

"A" grade has little value in this setting as "social currency." It is not surprising that school rewards do very little for such pupils (3). Like other children in the lower class, Pete learns from his gang to fear quite different social acts than does the middle-class

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pupil. He quickly learns from his neighborhood gang that to study homework is a disgrace. He conceals good marks. He likes to be considered a "good" street fighter. Because of this discrepancy between the goals of the lower-class pupils and the school's goals, these children often give the impression of lacking an ability to achieve. Their lack of academic success can often be attributed to the fact that the teacher, coming predominantly from the middle class, emphasizes goals and rewards important in the middle class and of little or no importance in the lower-class culture.

With practice, behavior patterns become self-perpetuating

Drives and goals can be learned. Chimps and children learn to work for tokens which can be traded for food (raisins or candy). The color white produces a fear drive in a rat after he has been shocked in a white box. After a period of time white color will lose its motivating and fear effects if shock is never again presented. Tokens will eventually lose their goal value if they cannot be traded for food. Sometimes several trials, or even hundreds of trials, are required before a given stimulus will no longer cause fear and tokens no longer serve as rewards, but such loss always occurs if the consequences are removed.

Some learned motives do not disappear so rapidly. In fact, some do not seem to disappear at all. Acquired motives sometimes become independent of the primary drives or rewards responsible for their development in the first place. They appear to serve as ends in themselves and are sought for their own sake. Gordon W. Allport (1) calls this phenomenon *functional autonomy*. It is illustrated in the following examples. The human miser hoards money even though money thereby no longer serves its original purpose. The skilled craftsman perceives exact workmanship as an end in itself. The boy who had to work endless hours to help provide for his family continues to do so in his adult years when it is no longer necessary to work more than regular hours.

The interesting feature of persistence in human motives is not particularly that they become independent of the primary needs but that they seem to be self-perpetuating. The drives and goals that pupils develop in school will continue long after they are out

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of school. They will continue to direct the pupil's activity into, and through, the adult years. As the pupil is encouraged to think creatively, he learns more of its advantages. Pupils who are actively engaged in hobbies learn the many ramifications and satisfactions of the hobby. Good work habits are found to bring favorable results in many endeavors. As each approach is used more frequently and is extended in breadth, the activity is elaborated from a simple to a more complex one. Consequently, there are more ways for the activity to satisfy pupil needs. Teachers find it worthwhile to limit the rigid routines of the classroom so that they may devote some attention to the development of desirable pupil motives.

Learning is based on need satisfaction

Up to the present our primary emphasis has been upon the *directing* effect of goals on behavior. They have been regarded as indicators of paths which, if taken, hold the *promise* of satisfaction. By manipulating goals and incentives teachers can guide desired behavior. For example, the teacher may permit the pupil who prepares the best plan for a democratic student council to be exempted from an exam in social studies; or a pupil's interest in collecting stamps may be directed toward an integration with his studies in geography.

However, there is another equally important role that goals play in learning. When goals are reached, they have a *rewarding* effect for the pupil. Ordinarily we think of these consequences in terms of the extent to which pupil needs are satisfied. The behaviors which lead to *satisfying effects* are maintained and used again in similar situations in the future. The reward *reinforces* the behavior that led to it. This is technically known as the *principle of reinforcement* and is an important regulator of learning.

Behavior patterns which do not lead to goal fulfillment will not be used again in the future and are said to be *extinguished*. The pupil abandons the hunt-and-peck system of typing when he finds it inferior to the touch system. The overhand is extinguished in favor of the underhand pitch in softball. Carrying figures on one's fingers is replaced by carrying them in one's "head." Were it not

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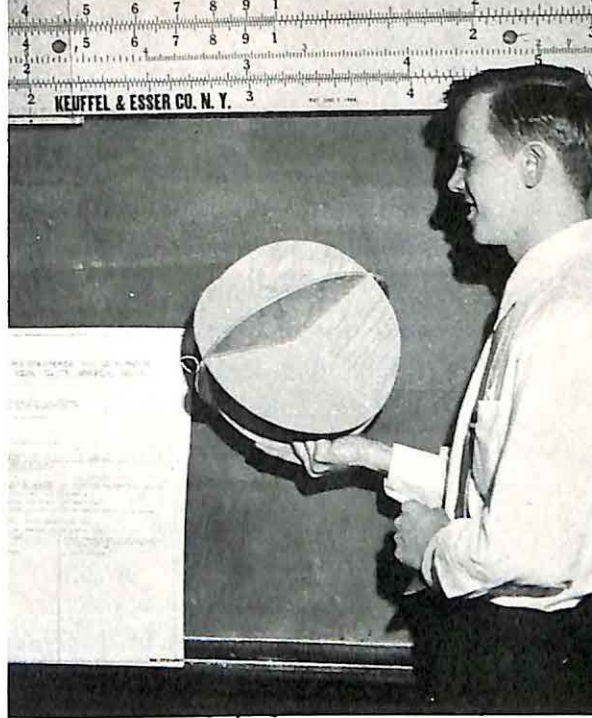
for this principle of *extinction*, the pupil's behavior would be endlessly cluttered with inappropriate responses. Maladaptive behavior would continue on indefinitely. In the human organism the process of extinction is often "insightful." We quickly recognize when a response is wrong and correct it. Accordingly, we have a wider range of adaptability and flexibility in our behavior than do the lower organisms.

The teacher should not conclude that only overt responses are influenced by reinforcement and extinction. Much of the pupil's behavior consists of making covert choices in problem situations. He makes interpretations of the situation and decides what alternatives are possible. For example, when the pupil gets out of school in the afternoon, he may have the possibility of playing ball in the school playground or going home to run errands for his mother. Because of his past experience in similar choice situations, he may recall that on a previous occasion when he was requested to come home immediately after school, he did not, and nothing happened. He is likely to infer, "I was late last time. Perhaps if I stay this time, my mother will forget that she asked me to run errands for her. I'll take a chance and play ball tonight with the gang."

This pupil has a chain of thoughts (covert responses) which amount to an hypothesis, an interpretation of possible lines of action and their probable consequences. There is the expectation, or certainly the hope, that "nothing will happen" if he stays at school and plays ball. If no reprimands are forthcoming when he arrives home, his interpretation will be confirmed and rewarded. It is quite likely that this interpretation will be made in the future. On the other hand, if he is penalized upon reaching home by a cut in allowance or other punishment, his interpretation will be contradicted (lack of goal-attainment plus pain). On future occasions the probability of making an opposite interpretation will be increased. For all practical purposes, then, whatever is learned is dependent upon reward. Without reward pupils do not learn.

The teacher plays an important role in the reinforcement of a

This pupil is obviously pleased with his project. What influence will this satisfaction have on his future endeavors in mathematics? What are some of the rewards for the pupil in the picture?



pupil's behavior. When he makes responses, she must recognize the incorrect ones and show the pupil why these will lead to undesirable consequences. When correct responses are made she should provide praise or other rewards. One of the teacher's more difficult tasks is to get the pupil's interpretations "out in the open" where they can be evaluated and corrected if necessary. The asking of relevant questions or the examination of verbal and written responses, are among the means available to her. Pupil responses must continually be monitored in this way since pupils may take short cuts which help them achieve immediate results but prove detrimental in the long run. An example of this is taken from the way in which reading is sometimes learned. Pupils frequently vocalize while reading. It seems to make reading easier for them in the early stages of learning. However, if vocalizing is continued, it will hinder their reading performance over the long run.

The teacher must be continually alert in her reinforcing role to see that what she regards as rewards is consistent with what the pupil perceives as desirable consequences. Failure to do this is well illustrated in a junior-high-school teacher's experience. She

believed that good work should be rewarded by having the pupil sit in the front of the room. When one of the boys in the class warranted this "honor" he was given a seat directly in front of the teacher's desk. Almost immediately this pupil's performance slumped. It was not long before the teacher recognized her mistake. Sitting in the front of the room made him conspicuous to all of the class and the focus of jeers from the other pupils. The consequences were anything but rewarding for him. Such errors in the teacher's perceptions may result because she is using standards appropriate to adults, one or the other of the sexes, a particular social class, or standards which reflect her own needs as a person or as a teacher.

Praise and reproof in the classroom

One of the most common ways of providing rewards and punishments in the classroom is through teacher praise, or its opposite, a symbolic "spanking" by reproof. All teachers employ some verbal means of providing or withholding reinforcement. Sometimes a letter grade is assigned, there may be direct praise from the teacher, or the child's work is exhibited to evoke the approval of his peers. Each of these techniques is a way of inducing success experience. At other times, she may assign a poor grade, reprimand the child privately or publicly, or threaten him with the loss of some privilege. These, in turn, are means of providing the child with signs that he has failed.

What is the effect of such induced conditions on the performance of pupils in the classroom? This is not an easy question to answer directly for, as we shall see, reinforcement is not an all-or-none condition but is complicated by a number of factors. We shall want to look at the experiences of success and failure, the regularity with which they are administered, and how their effects are modified by the pupils' personality. All of these are very practical considerations in teaching.

Let us first look, in a very general way, for some indication of which is more important, praise or reproof. In a very early study, Hurlock (10) had a class of children do several problems in arithmetic. On a predetermined basis some of the children were

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praised publicly, others were publicly reprovved and a third group, equal in size to each of the other two groups, was ignored although able to witness the treatment given the rest of the class. Pupils who were praised showed consistent improvement while those who were blamed demonstrated somewhat less improvement but still greater than the gains made by the group that was ignored. Apparently reproof had some effect on performance but it was not as certain as that of praise. Being ignored had the least effect on the pupils' performance.

A practical problem arises at this point. Does this mean that the teacher must provide praise, blame, or some other reinforcing condition after each and every pupil action? Mech's (13) findings are optimistic in this regard. In his study, the co-operating teacher provided approval by walking around the classroom while pupils did problems in arithmetic and pretended to write down the names of the children who were doing good work. Some children were given approval after every set of problems; a second group was given approval spaced on alternate groups of problems (intermittent rewards); and the third group was given no approval. The results indicated that, over a series of problems, pupils improve about equally well whether they are given continued or intermittent rewards. Of added interest is the fact that the group which was not rewarded appeared to benefit by being in the presence of, and hearing the approval given, the other children. Pupils who hear others being given approval work harder than they might if they were alone, because here is the expectation that they too might later be the recipients of the teacher's praise.

Although we have seen that praise and blame do have their effects on children's learning, it is doubtful that all children are similarly affected. George G. Thompson and Clarence W. Hunnicutt (19) provide us with evidence that children with different personalities respond quite differently to praise and reproof. One of their findings was that both high and low grades seemed to facilitate future performance. However, more important is the different effect that praise and blame have on pupils with different personality characteristics. The confident, outgoing pupils accomplished less when they were praised than when they were

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reproved; whereas the retiring pupils did more when they were praised than when they were failed. The performance of these pupils is shown in Figure 12-4.

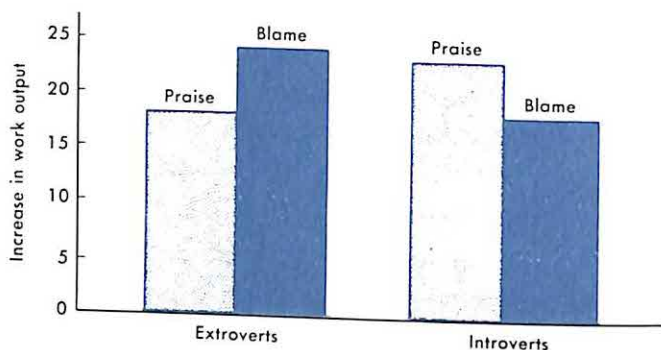


FIGURE 12-4. Work output of "extroverts" compared with "introverts" under conditions of praise and blame. (Adapted from G. G. Thompson and C. W. Hunnicutt. The effect of repeated praise or blame on the work achievement of "introverts" and "extroverts." *J. educ. Psychol.*, 1944, 35, 257-266. With permission of authors and Warwick and York, Inc.)

A possible interpretation of these results is that retiring pupils tend to be stimulated and encouraged by praise. They tend to bask in the satisfactions of success. On the other hand, "blame" dampens their motivation, only reinforcing their already existent self-appraisal of inadequacy. The outgoing, confident pupil who may be on the receiving end of praise most of the time has the feeling that he succeeded at the task the first time, his feelings of confidence are confirmed, and accordingly he need no longer try as hard. Even the latter pupils, however, are challenged by poor grades and work all the harder to improve their performance.

Whether the teacher is to use praise or blame at any particular time requires that she understand all of the elements involved. In the final analysis, which is to be used depends to a large extent on the boy's or girl's needs and prior experience. The study of individual pupils and the conditions which are most reinforcing to them must be observed. The spacing of reinforcement must also be considered. Teachers who are aware of these factors can look for the minimum amount of reinforcement needed before work seems to fall off as well as to notice where added reinforce-

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ments yield diminishing returns. She can look for evidence of the effects that public reinforcement of one pupil has on other pupils. She can look for evidence of praise and blame on the performance of pupils with different personalities. It is unlikely that praise and blame can be used effectively without appreciation of all of these factors.

Setting goal levels

Capturing the initial interest of the pupil and finding ways to stimulate more effort in his work are not the only problems in motivation. If we asked a number of teachers about their problems in motivating pupils, we would find another equally important dimension. A composite answer² might be something like this:

. . . teachers find it extremely difficult to motivate pupils beyond the point of merely "getting by." [They] want to learn just enough to make a passing grade and do not work up to capacity. . . . Pupils do not care whether they learn or not; they are extremely careless in their work. . . . They seem to be saying, "If I attend school here for a certain number of years, I shall be graduated. Any effort put forth in the meantime must be put forth by the teacher!"

Conscientious teachers want their pupils to be challenged, to progress beyond their present levels of achievement. What pupils hope or expect to do in the future is an indication of their *level of aspiration*. This concept may be simply illustrated by the pupil who receives a grade of C and is satisfied with making a grade of C on his next exam, whereas another pupil with a grade of C will be satisfied only with a grade of B on his next exam. The latter has a higher level of aspiration.

Level of aspiration is closely allied with a boy's or girl's self-esteem. If there is a discrepancy between his feelings of what "he is" and what "he would like to be," he may modify his goals, attempt to strive further, or simply give up. Ordinarily, level of aspiration involves some elements of self-competition and is marked by attempts to "do better" in order to maintain status and

² From R. A. Davis. The teaching problems of 1075 public school teachers. *J. exp. Educ.*, 1940, 9, 41-60. Pp. 42-48. With permission of author and Dembar Publications, Inc.

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to be satisfied with oneself (5). Goals valued by a pupil are those which *he* has successfully reached in the past. The result is that what is a "good" performance as seen by the child may be a "mediocre" performance as perceived by the teacher (8).

Pauline Sears of Stanford University (20) has described the characteristics of goal-setting by pupils with a previous history

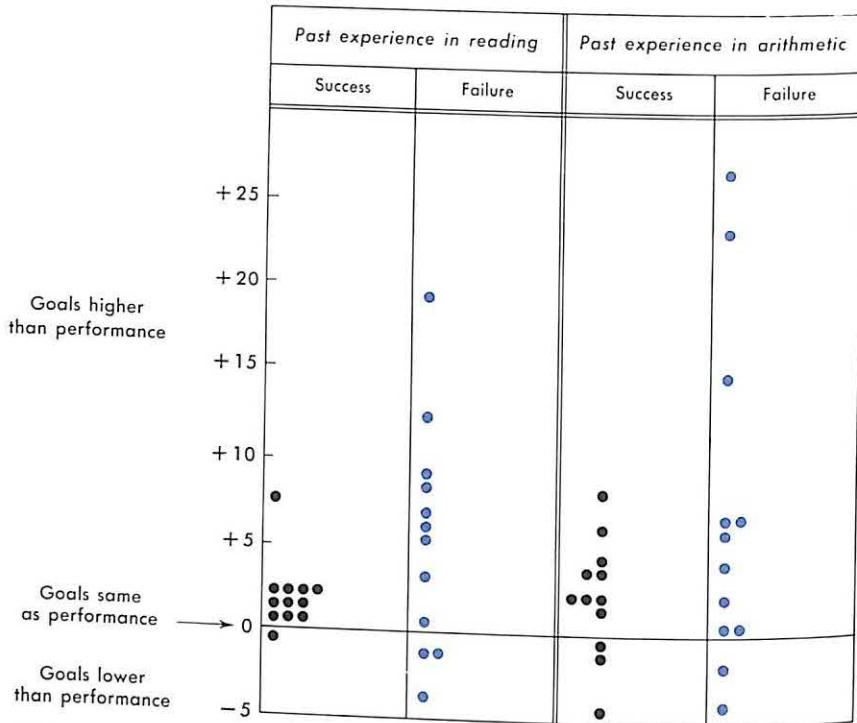


FIGURE 12-5. Successful pupils set realistic goals which they are capable of achieving. Unsuccessful pupils tend to set goals that are too high or too low. What do you suppose would happen to the level of aspiration if pupils were continually unsuccessful at a specific task? (Adapted from P. S. Sears. Levels of aspiration in academically successful and unsuccessful children. *J. abnorm. soc. Psychol.*, 1940, 35. P. 511. With permission.)

of success in arithmetic and reading as contrasted with those who failed in both subjects, and with a third group successful in one of these subjects and a failure in the other. Pupils who were successful in arithmetic, reading, or both subjects set new goals which were consistently higher than their achievement in the respective subjects, but the goals were realistic and capable of

being attained. The unsuccessful pupils, on the other hand, set goals which were too high or too low. They seemed to be working under one or another of these expectancies: "I cannot expect improvement and, consequently, will work for a very low score which I am sure I can get," or, "I will try to make a much higher score next time. I probably won't make it, but if I do it will compensate for my low score on the last test" (8).

Generally speaking, we can expect that pupils will seek easy or difficult goals on the basis of *specific* experiences. McClelland (11) found that pupils' expectancies for their final grade in a particular course were based more on their mid-term average in that course than on their over-all grade point averages. This finding substantiates that of Sears previously cited. In addition, McClelland tells us that when the pupil's past experiences are conflicting as, for example, when his grade point average is high and his mid-term exam is low or vice versa, his expectancy is highly related with his desire or need to achieve. Under these conditions, pupils with a high need to achieve, when asked to estimate their grade point average, overestimated their actual scores by about .2 of a point. Those pupils with low need to achieve reported their grade point averages with remarkable accuracy.

A teacher rarely administers only praise or blame. Ordinarily her evaluations are accompanied by some indication of what she expects of the pupil in the future. Frequently, comments such as "You certainly did a poor job in arithmetic, Sally, it looks as though you are never going to get anywhere in this course," or "You are having a great deal of difficulty, John! That's an easy problem too! If you can't do that you'll never be able to do the harder problems!", are freely tossed off by teachers and other adults without regard for their consequences. If enough comments like this are made, it will be but a short time before the pupil feels he will never succeed in arithmetic, or he will come to dislike the subject (6, 7). Though the significance of such comments are too often depreciated as trivial, nevertheless the cumulative effects are there.

In our cultural setting a premium is placed on setting goals somewhat ahead of our present achievement. Pupils who believe

they can succeed within reasonable limits are in a much better position to learn than those who must protect themselves from failure by setting goals which are too low. Pupils who feel defeated or accept the *status quo* when they are capable of improvement make little progress.

It is not desirable for pupils to work toward unattainable goals, for then goal-setting approaches fantasy and unreality. Realistic goals are capable of being attained, at least partially, while unrealistically high goals are certain to result in failure and defeat. Helping pupils to aspire toward reasonable and realistic achievements is an important part of the teacher's task, not only to further the learning process but to help the pupil meet the realities of life. We discuss this latter point in greater detail in Chapter 21.

Patterning the curriculum to meet pupil needs³

The starting point in motivation is to recognize and understand what a pupil wants most and what least, that is, the hierarchy of a pupil's needs. However, we must not make the mistake that this is all there is to motivation. Too frequently, there is concern for only the long-range goals which appear important to the teacher. All the while the pupil is striving for many more personal satisfactions. One of the important functions of the teacher is to capitalize on the need-goal relationship by helping pupils define the kinds of goals which can be achieved in and out of the classroom situation.

There was a time in the history of education when pupil motives were given little, if any, attention. Pupils were forced to master what the adults said they should. As a rule, difficult material, whether in English, arithmetic, history, or some other subject-matter area, was prescribed. Whether or not these materials had anything to do with pupil needs was judged to be of little importance. The requirement was that the pupil "get" them one

³ The reader will find this topic discussed in an interesting way in a document on which our treatment of this topic is based. It is by H. F. Wright, *How the psychology of motivation is related to curriculum development*, *J. educ. Psychol.*, 1948, 39, 149-156. With permission of author and Warwick and York, Inc.

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way or another. But learning under these circumstances did not come easily and the teacher found that she had to resort to many harsh disciplinary procedures including the birch rod, dunce cap, and the ruler for a “knuckle rapper.”

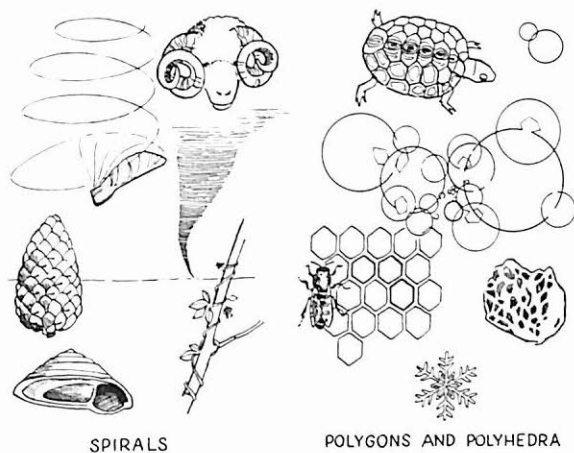


FIGURE 12-6. Capitalizing on pupil interests in mathematics. Geometrical forms are found in many aspects of nature.

In reaction to this movement there followed a period in which the educator thought the pupil's happiness and satisfaction was all that mattered. The emphasis was on helping him meet his immediate needs. In its most *exaggerated* form, this program called for a very permissive or even a *laissez-faire* classroom atmosphere. This was the era of the “children-what-would-you-like-to-do-today” method of teaching. (The reader should not conclude that this was the typical philosophy of all schools, however.) On superficial glance, this seemed like a good idea. It would seem, indeed, that pupils who did what they wanted to do would be motivated. It seemed as though pupils who worked in this fashion would learn what the adults thought they should know in order to get along in a society. Looking more deeply into this philosophy, however, it was soon recognized that pupils, even though propelled to work, were left somewhat rudderless. Pupils who are “free” in only a physical sense are not without restraints when they do not know what to do or where they are going when they do begin to work.

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More recently, education has come to a sensible compromise between these two extremes. Teachers and others concerned with the education of pupils still hold to the importance of meeting pupil needs. Most teachers eventually come to recognize most of the dominant needs of the pupil by watching his behavior. They can also tell quite a bit about his interests by inventories which are available. It helps very little just to know that the pupil has a need for prestige and let it go at that. The pupil may know nothing more about satisfying this need than a vague knowledge that he can get prestige by breaking a school window, playing "ditching" or "chicken" with cars, or tripping his classmate. There is still the task of helping him to arrive at a potentially satisfying goal which will also direct his learning in accordance with cultural requirements. For the pupil in our example it might involve giving him a responsibility, making him chairman of a committee or putting him in charge of a playground group.

There is an important distinction to be made between long- and short-range goals. Since the former are remote, they are sometimes meaningless to the pupil. The latter are accessible and hence more attractive. However, the reaching of immediate goals often develops into the achievement of the long-range goals. They are the paths leading to the desired end, an educated pupil. If we find that Bill has needs for status and prestige, and that going to college is a way in which he can satisfy these needs, it is not sufficient to suggest that he should work to go to college and let it go at that. Certainly a goal has been established, but being so remote it might result in nothing more than a fantasy for him. Bill will need help in deciding on an appropriate curriculum, evaluating his competence for college work, and making application and arrangements for financing his college career. If this is done, Bill's activity will have direction. Each course completed, each grade received, and the money earned from his newspaper route will all be intermediate goals that provide direction to his activity.

The distinction between long-range goals and intermediate goals is useful in even the shorter classroom units. John is not left in the mechanical arts class with the project of building a book

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case. Certainly this is an important goal and one which can satisfy many needs like achievement, peer or adult approval. However, he is led to this goal by a path of several sub-goals which involve the making of plans, determining the amount of lumber needed, computing the cost, saving the pieces, assembling and finishing the product. The pupil under these circumstances knows what is ahead of him, knows where he is going, and is in a good position to get things done if he knows both the long-range and the sub-goals.

Classroom planning between pupils and teachers provides an excellent medium for establishing these goals. The making of an assignment does not end in setting a number of pages to be read

A mechanical device for self-instruction. This device provides immediate knowledge of progress and permits the learner to correct his own errors. One frame of material is partly visible in the left-hand window.

The student writes his response on a strip of paper exposed at the right. He then lifts a lever with his left hand, advancing his written response under a transparent cover and uncovering the correct response in the upper corner of the frame. If he is right, he moves the lever to the right, punching a hole alongside the response he has called right and altering the machine so that that frame will not appear again when he goes through the series a second time. A new frame appears when the lever is returned to its starting position. (Courtesy of B. F. Skinner, Psychological Laboratories, Harvard University.)



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before the next class meeting. Pupils' motives which have been suspended in a passive state are activated through this process. The boy whose father is in the Air Force, the pupil who has an interest in airplanes or the design of new cars, finds that a real need can be satisfied by learning Bernoulli's principle, that is, that the pressure is decreased in a region of increased fluid speed. The pupil who lives in an overcrowded community, one in which new industries are rapidly growing or one in which a new thruway is being built, has a need for studying community planning. Motives can now be brought under control to suit the teacher's wants as well as those of the pupils.

Some mention should also be made of the symbolic rewards. Gold stars, honors, grades, diplomas are all ways of defining goals for pupils. If they are successful motivators, as they frequently are, it is because they relate back to the satisfaction of some important need. Used merely as incentives, they do not meet the criteria for good motivation. They do not tell a pupil what lies ahead, if anything. The future is a blank or just another gold star or mark. On the other hand, if they are used as signs of accomplishment with guidance as to how work can be improved, the extrinsic rewards can be used to good advantage.

The successful use of motivation in the classroom can be summarized as follows. First, important pupil needs must be discovered by the teacher. They must be aroused by careful classroom planning. Long-range and short-range goals must be clearly defined, and geared to the classroom work so that they are capable of being achieved by pupils. There is no reasonable argument for a rigid classroom structure where pupils are implored or forced to work under inflexible requirements or standards. On the other hand, one cannot defend a soft, lax curriculum. A reasonable middle-ground approach provides every child with the opportunity to work toward constructive goals commensurate with his abilities and interests.

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The Transfer of Past Experiences

DEGREE OF TRANSFER constitutes the real test of how well the pupil has been taught and the extent to which he is ready to learn new experiences. After completing a unit, or a term's work, the teacher may reasonably ask herself, "Can my pupils use what they have learned in different situations, in their next courses, or outside of the classroom? Is the pupil capable of integrating the many experiences he has had in a way which will permit him to arrive at solutions to problems which, to him, are unique?" One psychologist has summarized the proper philosophy of the school toward transfer in this way:¹

That which does not transfer is educationally worthless, if indeed not a positive encumbrance. Except for past learning one could not learn anything in school; the simplest sentence, spoken or written, would be utterly incomprehensible. If a school subject does not transfer in educationally profitable amounts, it is that subject, not transfer, that is invalidated. If "progressive education" is superior to the brand which it opposes, it is, in part, because it proposes readier media of transfer, not because . . . it operates on some other base.

First let us examine the history of transfer beginning with the

¹ From J. B. Stroud, Experiments on learning in school situations. *Psychol. Bull.*, 1940, 37, 777-807. P. 787. With permission of author and publisher.

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doctrine of formal discipline. Although now an old issue, its weaknesses are not universally appreciated. Even today, whenever a new curriculum or course is considered by curriculum constructors, there still arises the question of "What is its disciplinary value?" or the statement is made that "We must retain the classical subjects because they teach pupils to learn, memorize, think, and concentrate." The early views about transfer and the more contemporary ones are revealed in the stream of historical perspective.

Mental discipline discredited

For many years, educators and psychologists have been aware that learning in one area has an effect on learning in other areas. The earliest explanation of transfer was based on the so-called doctrine of formal discipline which rested on faculty psychology. The mind, it was believed, was composed of several segments, each of which had its own particular function or "faculty." A function could be developed for use on all occasions if it was but exercised, in any one way, just as the strength of a muscle can be increased for all uses by some one appropriate exercise.

Similar claims were made for the general value of almost all subjects taught in the school. Practice in a foreign language was said to develop imagination. The study of German was claimed to be a way of strengthening the scientific intellect. Mathematics, it was believed, increased or "created" the power of concentration and reasoning. The common view was that these were fundamental qualities of the mind. They were said to function in the same way *regardless* of the kind of material with which pupils worked. The only requirement was that the same power or faculty had to be used.

As you can see, this view held that transfer had a highly general effect on future learning. It was not without its influence on the school curriculum. School subjects were selected because they could help pupils develop different "powers of the mind" rather than for the intrinsic worth of their content.

Just before the turn of the century, research evidence had a sobering effect on these extravagant claims. William James pro-



In the 19th century, the school devoted much time to the study of Latin, Greek, geometry, and the like. The study of those subjects was believed to train the faculties of the mind. Experimental evidence was soon to replace this notion with the modern theories of transfer. (Metropolitan Museum of Art, New York.)

vided some of the first data (8) that raised doubts in this regard. He carefully questioned several mature actors about their capacity for memorizing. If there was anything to the idea that a general faculty of memory could be improved by exercise, it should certainly exist for that professional group. All persons that were questioned denied that the learning of parts for plays increased their ability for remembering facts in general. What was learned was an improvement in the systematic way in which they studied their parts, a view which would still be acceptable today. About the same period James and his students also took measurements on the time required to memorize German poetry before and after a training exercise (memorizing the first book of *Paradise Lost*). Their ability to memorize did not improve, even for this very similar task.

The final death blow to the doctrine of mental discipline was dealt by the findings of an extensive study published in 1924 and 1927 by E. L. Thorndike of Columbia University (2, 17). He and his colleagues made a careful examination of transfer effects of school studies on intelligence scores of more than 13,500 high school students during an academic year. The amount of general improvement in intelligence due to courses taken was small.

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Pupils who took, say, Latin, geometry, English and history gained little, if any, more than pupils of initially equal intelligence who took arithmetic, bookkeeping, homemaking, English, and history.

Accordingly, the expectation of any general improvement of the mind from one study as contrasted with another was doomed to disappointment. Thorndike² said: "The intellectual values of studies should be determined largely by the special information, habits, interests, attitudes, and ideals which they demonstrably produce." Which courses were to be selected for the curriculum had to be decided on the grounds of the special training they could provide. The languages had no special pre-eminence.

Pupils transfer identical elements

Upon the demise of the doctrine of formal discipline some reactions were extreme and erroneous. For example, some said ". . . Nothing could be more false than that the study of mathematics strengthens the reasoning faculties. Mathematicians are poor reasoners. I mean those who have studied pure mathematics only. Mathematics, too exclusively pursued, destroys both the reason and the judgment."³

Other positions were more moderate and provided a reasonable basis for the selection of subjects in the curriculum. Such statements read: "No study should have a place in the curriculum for which this general disciplinary characteristic is the chief recommendation." Thorndike's own position⁴ was:

One mental function or activity improves others in so far as and because they are in part identical with it, because it contains elements common to them. Addition improves multiplication because multiplication is largely addition; knowledge of Latin gives increased ability to learn French because many of the facts learned in the one case are needed in the other. The study of geometry may

² From E. L. Thorndike. Mental discipline in high school studies. *J. educ. Psychol.*, 1924, 15, 83-98. With permission of Warwick and York, Inc.

³ From E. L. Thorndike. *Educational psychology*: Vol. II. *The psychology of learning*. Bureau of Publications, Teachers College, Columbia University, 1913. P. 432, quoting Ward. With permission of publisher.

⁴ *Ibid.* P. 430. With permission of publisher.

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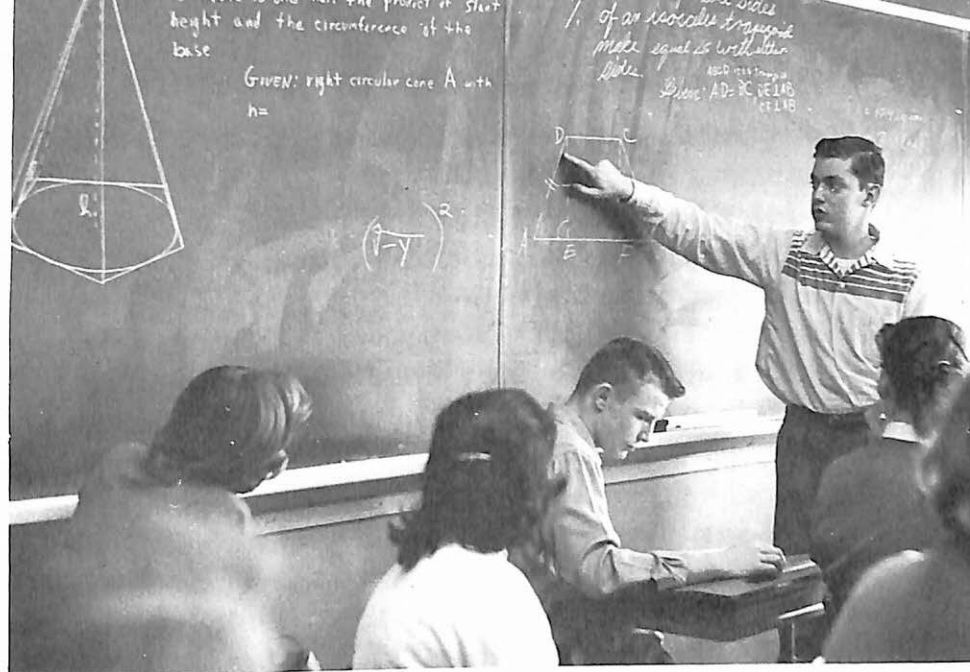
lead a pupil to be more logical in all respects, for one element of being logical in all respects is to realize that facts can be absolutely proven and to admire and desire this certain and unquestionable sort of demonstration.

The theory of identical elements provided more freedom in the selection of courses than the idea that nothing transferred. Now, at least, some courses would be introduced which would be built around previous learning. Educators could assume that if the material taught in previous courses was adequately learned, pupils could use that material to good advantage in further learning. Some transfer must be assumed to exist if there is to be an efficient curriculum. It is impossible for the school to teach everything the pupil must know in exactly the form it will be used in future years.

Through Thorndike's experiments on transfer and his theory of identical elements, course content assumed a place in the curriculum in its own right. Courses were taught not because they sharpened the pupil's faculties but because the content itself was judged intrinsically useful. The teacher no longer emphasized the memorizing, concentrating, and attending functions. Now the specific skills, facts, and habits that pupils must use in the future became her major concern. In an indirect way, this theory influenced the introduction of new subjects such as social studies, homemaking, citizenship, and physical education and the exit of other courses like Latin and Greek for most groups of pupils.

Stimulus generalization in transfer

Transfer occurs by the process of stimulus generalization when the pupil makes the same response to similar situations. If the young child calls both a tree and a bush by the name "tree" or if all small animals are called "bugs," we have examples of stimulus generalization. When a response to two stimuli is the same and if the response is correct in both instances, there is positive transfer. When a child uses the same response to similar stimuli (as he might make to *urn* and *earn* or to *vain* and *vane*) and where the



Facts can be proven—in the classroom and in the laboratory. Thorndike's theory of identical elements suggested that the logic of geometry transferred to other areas, not because it trained a mental faculty but because it demonstrated that facts could be proven. Of course, the classroom teacher must make provision for the pupil to transfer that generalization to the broader applications.



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same response is incorrect in only one instance, stimulus generalization results in negative transfer.

Many illustrations of this process may be found in the classroom. Young pupils often read w-a-s as s-a-w or s-a-y as s-a-w. Reversals and confusions of this kind are frequent among first-graders because at first many words seem similar to them. The study of French by a pupil who already knows Spanish may seem easy because some learning transfers directly from one language to the other. On the other hand, some words seem similar by reason of spelling or sound, but have entirely different meanings in each of the languages. In the first experiences with psychology and sociology many college students see these courses as being similar. Feelings of dislike for one English course may generalize to other English courses, and thereby have a distracting influence on the pupil. Seeing similarities helps one to categorize objects (see Chapter 15 on concept formation) but blinds one to the distinctions. Transfer by stimulus generalization is common at all ages, and can be either a hindrance or a help.

Stimulus generalization has been demonstrated in experiments (13) with young children in kindergarten and first grade. The amount of generalization decreases as the similarity to the initial

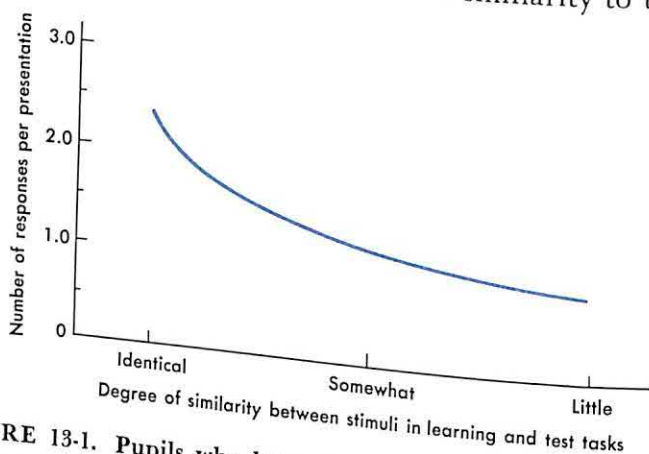


FIGURE 13-1. Pupils who learn to press a lever for a marble when they see a light of one intensity, perform similarly, but to a lesser degree, with lights of different intensities. This is one illustration of the stimulus generalization gradient. (Adapted from C. C. Spiker. The stimulus generalization gradient as a function of the intensity of the stimulus lights. *Child Develop.*, 1956, 27. P. 91. With permission.)

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learning situation decreases. Children were asked to respond to a light of a given intensity and were reinforced by receiving a marble when they responded correctly and were not rewarded when they responded to a light of a different intensity (brightness). After this training, they were given a new task of responding to lights of different intensities. The more the lights in the new tasks differed in intensity from those in the initial learning, the fewer the learned responses (as shown in Figure 13-1) elicited.

Another interesting feature of this experiment was that those pupils who were rewarded a greater number of times in the original training generalized (i.e., responded) to a greater extent to the lights most similar to the training stimulus than those who were rewarded half as many times (see Figure 13-2).

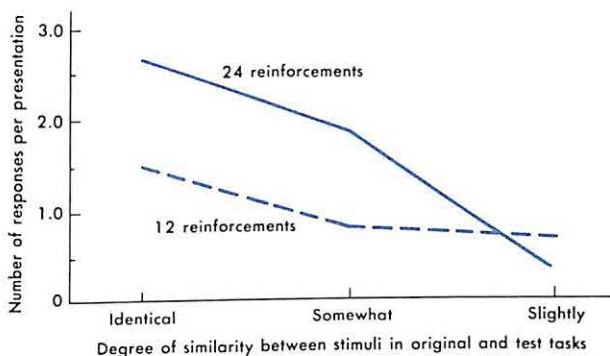


FIGURE 13-2. The thoroughness of initial learning influences generalization to new tasks. (Adapted from C. C. Spiker. *Ibid.* P. 95. With permission.)

The theory of transfer by stimulus generalization has helped educators responsible for curriculum planning to understand the importance of general education. One does not have to teach content *exactly* as the material is to be applied. Pupils do use generalizations in new problem situations and thereby increase their potential for reaching successful solutions.

Generalization by labels and words

One important type of generalization depends upon labels and words. Words are important, for they help us to see the

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similarities and differences among groups of objects or ideas. They elicit whole sets of learned behaviors which vary with the degree of *meaning* of the word-label. To illustrate, if you wanted to point out the location of an object in a room you might say, "It is directly in front of you." However, you might have said, with equal clarity, "It is at 12:00 o'clock," or "It is 'north' of you." All phrases would have had the same meaning provided they had been learned as equivalent. In addition, they evoke quite distinctive sets of behaviors when compared with the phrases, "It is in back of you," "It is at 6:00 o'clock," or "It is 'south' of you."

The importance of labeling in children's learning has been demonstrated in many studies (14). Children who understand the concept of "middlesized" are able to transfer this concept to a new learning task which involves distinguishing the one that is intermediate in size of three new objects. Children who do not know the meaning of middlesized fail to make the necessary distinction and are accordingly handicapped in the new learning situation. Cantor (4) demonstrated a similar process in another study. He found that children who had learned names which differentiated objects transferred these names to facilitate new learning. On the other hand, children who only recognized the important characteristics of the object without learning labels for appropriate distinctions made many more errors in the new learning situation.

Words and labels, richly laden with associations as contrasted with empty verbalizations, provide pupils with an important means of generalization which can be used effectively in new situations (10). They provide the necessary readiness patterns from which the pupil can successfully initiate an activity. Without *meaning*, a label is useless. The meaning of a word or label indicates the kind of situations in which the word applies and the types of response needed.

Teachers can guide the pupil toward more effective transfer by the processes described in Chapter 15 on concept formation. Pupils can be encouraged to label their experiences and see how concepts identify both similar and different characteristics. They can be encouraged to recognize the specific ways one responds when a

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particular label is attached to an object as contrasted with another label.

Labels *are* learned and are influenced by the same processes as are all learning. The pupil who is articulate and possesses a rich and wide vocabulary, has a great advantage in his ability to benefit from experience.

WHAT TRANSFERS?

The specific content of school subjects, facts, concepts, skills, and general information transfers widely to new situations. This feature of transfer was emphasized in the early experiments. Some response patterns are learned as by-products of an original experience and may demonstrably transfer to new situations. Bernoulli's principle may transfer to the design of a model airplane. A lack of self-confidence in his ability may hinder the pupil when he attacks a difficult task. Techniques transfer as useful aids in memorizing dates, poems, and parts in plays. We can see how many of the factors which transfer in this way are brought to bear on the activity of the pupil in the following illustration:

Bill in a chemistry laboratory is making chlorine. He knows what compounds must be combined (facts transfer). The acid is diluted by adding the acid to the water (principles transfer). In setting up his apparatus he first bends glass tubing (skills transfer). The apparatus is then assembled cautiously with neatness and care (methods transfer). He proceeds with an air of confidence and deliberation (attitudes transfer). If we overview the whole process we find that he works systematically, almost rigidly, just as he has in previous experiments. Everything is constantly checked routinely and his findings are recorded as though he were unaware of the actual processes (sets transfer).

These behavior tendencies may be acquired in subtle ways without "conscious" awareness by the pupil. They may result in positive transfer and learning is facilitated, or in negative transfer which hinders learning. Because of their pervasive nature they have wide applicability in many kinds of situations and are worthy of special attention in the curriculum. The teacher of special courses, particularly remedial ones, as well as the teacher of any subject-matter area must also be concerned with promoting

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these kinds of transfer. If provided appropriate experiences, a pupil can be helped to develop positive abilities and attitudes in addition to specific facts and skills in any subject which has a rightful place in the curriculum.

Principles and meanings aid transfer

Minor variations from "sameness" may sometimes hinder positive transfer. Thorndike conducted a study in which entering college freshmen were given at widely separated points in the same test the following problems:

$$\text{Expand: } (x + y)^2$$

$$\text{Expand: } (b_1 + b_2)^2$$

It is clear that both problems are correctly solved in exactly the same way. Only the symbols are varied. About 30 per cent of the students taking this test were able to solve the first problem successfully. On the other hand, only about 6 per cent of the same pupils were able to solve the problem restated in terms of b_1 and b_2 . The meaning of this notation is taught in the junior-high-school years when algebraic symbols are learned. Provisions for positive transfer must be made at the time the subject matter is taught. It is apparent that the teacher cannot assume pupils will always transfer what they have learned to new situations even where it seems obvious they should do so.

The only way to assure transfer is to teach for it. The pupil must be able to "see" that the elements are similar in both the original learning and the possible transfer situations. All courses present information, facts, and skills that can be used in thinking and reasoning. However, facts and skills are not *necessarily* usable. The teacher needs to help the pupil to see the many applications of the material being learned. For example, the teacher can show that 9×5 is the same as

- (a) 5×9 ,
- (b) adding groups of nine, five times,
- (c) adding groups of five, nine times,
- (d) certain operations in 49×35 , and
- (e) certain operations in $45 \div 9$.

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All subject-matter content lends itself to innumerable similar variations, limited only by the time and ingenuity of the teacher. This procedure is one which provides breadth of meaning to what is being learned. The effective teacher helps her pupils to organize their experiences into more general terms which will be useful in a wide variety of situations.

Having pupils learn underlying principles is an economical means of promoting understanding. Judd's experiment (9) illustrates the effect of a general principle on transfer. Two groups of boys were used to test the effects of understanding the principle of refraction on learning to hit a target under water with darts. Group A was given a full theoretical explanation of refraction. Group B was given no explanation but was given an opportunity to solve the problem through experience. On the first set of attempts, when the target was 12 inches below water, the performance of both groups was equal. On the second series of trials,

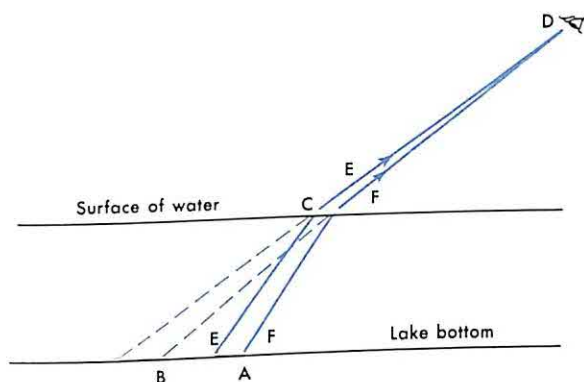


FIGURE 13-3. A diagram illustrating the explanation of refraction used in transfer studies. (From G. Hendrickson and W. H. Schroeder. Transfer of training to hit a submerged target. *J. educ. Psychol.*, 1941, 32, 205-213. With permission of author and Warwick and York, Inc.)

the target was brought to a point four inches below water. The performance of Group A, who had learned the principle of refraction, was now superior to those in Group B. This study was repeated more recently (7) with very similar results, except for two additional and significant findings. First, the principle of

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refraction was found to be *immediately* helpful to the boys who knew the principle. Secondly, a third group of boys who not only knew the principle but had additional instruction (the deeper a lake, the farther the real rock A will be from the image rock B as shown in Figure 13-3) outperformed both of the other two groups. This third group excelled when the target was six inches in the water and in the transfer problem when the target was two inches in the water.

Knowledge of the refraction principle provided the pupils with general understanding. They could transfer their knowledge easily to different situations. This understanding, coupled with experience, permitted the pupils to gain insight into the problem. The boys said, "I see how it works," "I get the trick."

Buswell has also emphasized the importance of principles and generalizations in making learning meaningful. He says, for example,

The understanding embodied in the arithmetical generalization that "when both the numerator and denominator of a fraction are multiplied by the same number, the value of the fraction is not changed" is more transferable than the specific fact that two-thirds and four-sixths have equivalent value.⁵

Although, it cannot be denied that principles do have a wider range of applicability than facts, we must again emphasize that their transfer cannot be assumed to be automatic. It should be noted that in the replication of the Judd study, the principles were more effective when they were elaborated in a way to provide an application. Thus, some provision must be made by the teacher for adapting the explanation of the principle or generalization to the needs of the pupil. Pupils must be able to visualize the operation of the principle and the situation to which it applies.

Arithmetic reasoning, good judgment in problem situations, logical reasoning, and interpretation of fables were all found in one study (21) to facilitate positive transfer. Students improved on the kinds of problems in which they were trained. However,

⁵ From G. T. Buswell. *Educational theory and the psychology of learning. J. educ. Psychol.*, 1956, 47, 175-184. Pp. 180-181. With permission of author and Warwick and York, Inc.

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in the absence of special applications there was only slight transfer from any one of these to the other three. Principles are transferred most effectively by methods which make explicit the similarities between situations and the relevant applications (18).

The broader possibilities for transfer become evident through studies like those just described. Nothing in these, however, obviates the need for teaching pupils the necessary facts and habits for successful living. Rather they dictate the need for supplementing instruction with general principles which provide understanding and meaning.

Pupil attitudes transfer

A very subtle carry-over from one situation to another is seen in the transfer of attitudes. Pupils who have prejudices and biases in one direction (for example against some ethnic group) are likely to have similar prejudices about other groups with like characteristics, or others perceived to have similar characteristics.

A recent experiment (12) illustrates the manner in which attitudes toward oneself may influence responses to a testing situation. Two groups of subjects were studied. One group of students lacked self-assurance, had low self-esteem, and were very concerned with the impression they made on others. The subjects in the second group were confident of their ability, had little difficulty in making decisions, and were not easily threatened in ambiguous situations. These groups were then given a true-false examination. They were told that the examination was to be scored on a rights-minus-wrongs basis. After the tests were completed they were instructed to circle all items they had omitted. They were then asked to indicate what they believed to be the most probably right answers to the omitted items. Their test papers were scored on a rights-minus-wrongs basis, on a numbers-right basis, and on the amount they were penalized by leaving out items. The results are shown in Figure 13-4.

The retiring pupils' lack of self-confidence was reflected in their greater number of omissions on the true-false test. Lacking self-assurance and confidence in their own judgment they took the middle-of-the-road course of action. They probably thought some-

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thing like this: "taking the chance of putting down an answer might result in a higher score but it might also result in a severe penalty. The safest alternative is to omit an item I am uncertain about."

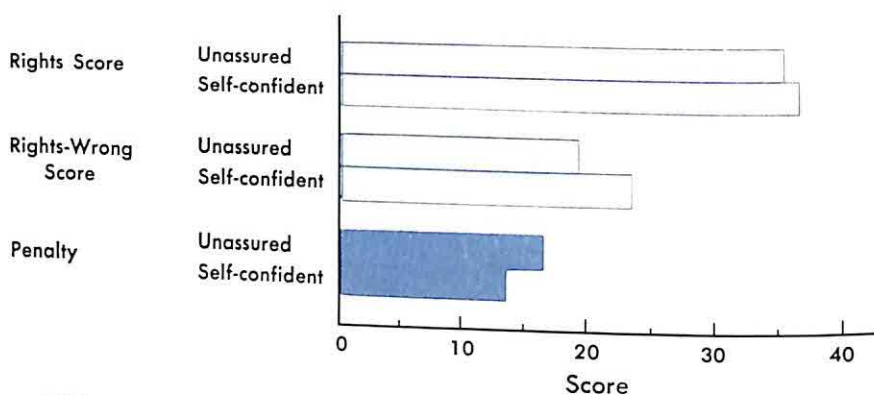


FIGURE 13-4. Anxiety and lack of self-confidence generalizes to performance on an achievement examination. The anxious pupil is penalized when "rights-minus-wrong" scoring methods are used. (Adapted from A. C. Sheriffs and D. S. Boomer, Who is penalized for guessing? *J. educ. Psychol.*, 1954, 45, 81-90. With permission.)

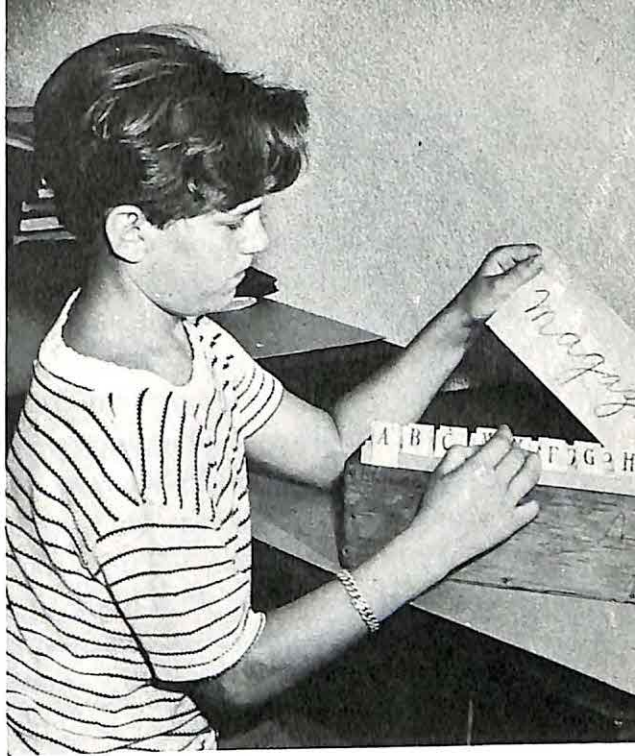
In another study (19) it was found that pupils who proceed from easy problems to more difficult ones, with success experiences at each level of difficulty, tackle new problems with more confidence and persistence. One of the teacher's activities is to see that the pupil is confronted with tasks within his capabilities so that he has a reasonable number of success experiences.

Innumerable attitudes may carry over to new situations—patriotism, loyalty, honesty, and other social and cultural attitudes important in adjusting to society. In addition, there is the whole realm of attitudes toward oneself, family, and other persons. The school is responsible for developing attitudes that will promote a realistic and mentally healthy adjustment now and in the future.

Pupils transfer methods

"The acquisition of general techniques such as how to use a library card catalogue, is of far more general value than to learn the location on the shelves of a specific reference" (3, p. 181). Every activity involves a way of doing things, a procedure, a

The use of methods transfers. The pupil learns to use the card index. This learning will assist him in the proper use of the dictionary, library catalogue, filing techniques, and the like.



"how to" The pupil may learn these informally, out of his personal experience, or through school experience. If methods are not formally taught they are likely to be incidental to the learning of course content, but they are there nevertheless. Such procedures range from learning to use an outline in taking course notes to a procedure like "the best way to keep from offending people is to listen to them and say as little as possible" in social interaction. This is the kind of transfer involved in "learning how to learn," discussed in Chapters 11 and 14.

The transfer of methods justifies an emphasis on arithmetic processes. The pupil is taught how to use multiplication, how to check his results, how to use "crutches" in the first step of learning, how to estimate quotient figures in division and the like. The teacher provides situations in which the pupil has opportunity to learn these procedures while at the same time helping him to establish meanings. An emphasis on "correct answers" in routine drill exercises which give no attention to the processes involved may result in little transfer to new situations (3). In other courses the emphasis may be put on interpretation and discussion of printed matter, on laboratory techniques and innumerable other

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procedures. For example, the National Training Laboratory at Bethel, Maine has as its primary function training in methods of carrying out group discussion.

Specific instruction directed toward such procedural methods has been found helpful. Herbert Woodrow (22) compared the gains of three groups of pupils in different forms of memorizing over a period of 4 weeks and 5 days. One group was given no training or practice and was merely given a test before the experiment and after. A practice group memorized poetry and nonsense syllables without explanation or a discussion of methods to be used in memorizing. They were told merely to memorize "by heart." All together 177 minutes were spent in this activity during periods averaging 22 minutes in length held twice a week. The third group was called the training group. These pupils spent the same amount of total time in the activity except that their time was *budgeted between actual practice in memorizing and listening to an exposition of the technique of memorizing*, including rules and principles. Seventy-six minutes were devoted to listening to these rules, 76 minutes to memorizing poetry and 25 minutes to memorizing nonsense syllables. The training group far surpassed either of the other two groups on six different tests of memorization given at the end of the experiment. A summary of the results is presented in Figure 13-5.

Pupils who are provided an understanding of logical organization by means of outlining and summarizing make higher gains in reading, history, and civics scores than a similar group of pupils without this training (11). There is more improvement in the school marks of students who are instructed on how to study than those not so instructed (6). In the next chapter we see that methods of this sort are also helpful in problem-solving and reasoning.

Occasionally teachers may question the value of providing such instruction at the sacrifice of course "content." They may feel that they have to cover so much ground during the term that it would not be possible to give instruction in "how to study" and the like. It should be evident, from the research we have cited, that the teacher cannot afford to neglect instruction on pro-

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cedures. The time is not lost but merely reallocated. The final results will be more effective than they would otherwise be.

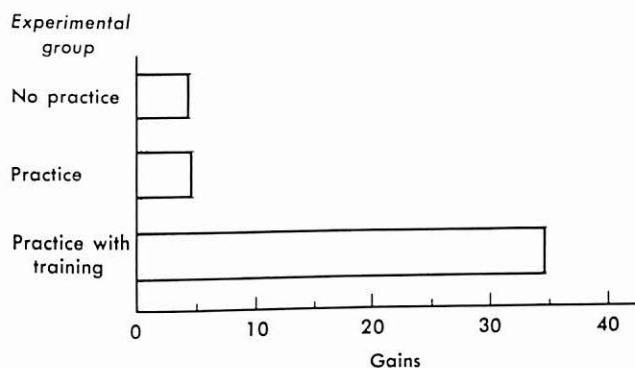




FIGURE 13-5. Average gains in memorizing by pupils who previously had no practice in memorizing, and practice in memorizing plus training in methods of memorizing. The same amount of total time was spent in the activity by the latter two groups. The time spent on teaching pupils good study methods results in better performance and more time available for other class activities. (Adapted from H. Woodrow. The effect of type of training upon transference. *J. educ. Psychol.*, 1927, 18, 159-172. With permission.)

HELPING PUPILS AVOID NEGATIVE TRANSFER

From our several illustrations it is now apparent that transfer has three possibilities in its effects. *Transfer may be positive.* What one has learned in one course may facilitate learning in another course or in problem-solving. Most teachers hope for positive transfer since the greatest value is placed on this effect. *Transfer may be neutral.* The pupil may learn facts or principles which cannot be applied to further experiences. Learning a foreign language may in a circuitous way make a minor contribution to an understanding of one's own culture, but it has a negligible effect on learning or using mathematics. Or, *transfer may be negative.* Because of what the pupil has learned previously, his performance in new situations may actually be hindered. Individuals who have spent the first third of their lives speaking one language find they are handicapped in attempting to break away from their old speech habits. They find it exceedingly difficult to overcome a foreign dialect. Another illustration

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comes from Wertheimer, who watched a class being taught to find the area of a parallelogram (20, p. 14-16). The teacher always used the figures in this position, , for her demonstrations. Test results indicated that the children had learned their lesson well, but Wertheimer was not satisfied. He asked the teacher for permission to provide another test. This time he drew the parallelogram in this position, . The results were surprising to the teacher. Although some pupils solved the problem correctly by turning the page to right the diagram or by redrawing it, many of the pupils were baffled by the problem. Others applied the formula of base times height *incorrectly*. When the factors of transfer of set, attitude, and method are not considered, negative transfer is indeed a possible outcome of all teaching.

Although negative transfer is to be avoided as much as possible it has its beneficial side as an aid to further learning. It is true that pupils must eventually learn by their successes, but they can also profit by their failures. They can be helped to appreciate the lessons inherent in their failures. The pupil should be encouraged to guess and to speculate, but at the same time to know why his approach is defective when it produces incorrect results.

Forgetting

Once learning has occurred, we sometimes find at a later date that we are unable to recall what was learned. There are many notions about what happens in the process called forgetting. Most of these explanations involve some aspect of negative transfer.

Experiences are often reconstructed during the recall period. An illustration of reconstruction is shown in Figure 13-6. The picture originally viewed was an owl. The first subject looked at it and then drew from *memory* his impression of the picture. He then passed his drawing to the second subject, who in turn drew his impression of the drawing from memory. And so on, until all subjects had made their drawings. As you can see, the owl eventually evolved into a cat. Changes do occur in memory, to the extent that gross distortions may be the result.

In another study (5) subjects were asked to learn symbols such as this one . One group was told that it was the letter C

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and another group was told that it was a crescent. On a recall test, the subjects were found to have reconstructed the figures, not as they originally appeared but in terms of the language labels provided. You can see this and other similar illustrations in Figure 13-7. Here then is evidence that memories, at the time of recall, are distorted because our attention at the time of the original

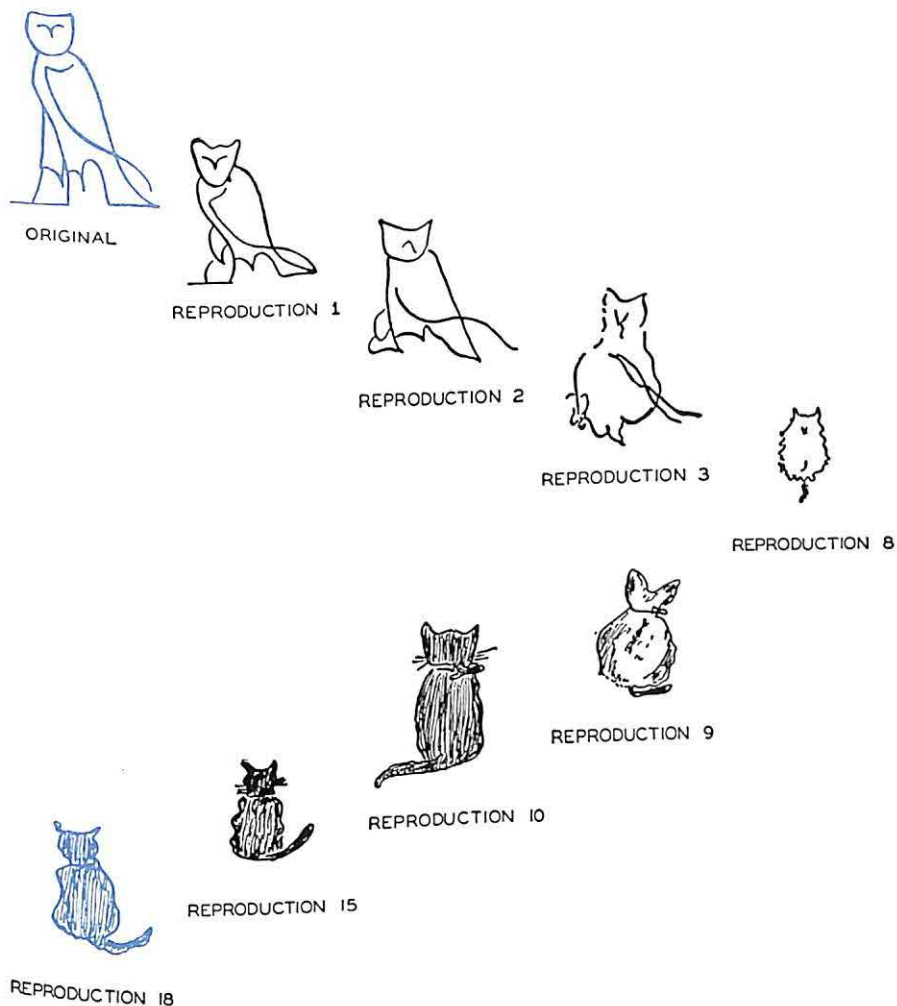


FIGURE 13-6. The reconstruction of experiences. As pupils passed the drawing from one person to another the drawings became modified. The processes illustrated are those of transformation, elaboration, and simplification. Can you account for the change from the original to the later drawings? (From F. C. Bartlett. *Remembering*. Cambridge University Press, 1932. Pp. 180-181. With permission.)

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learning is guided by the gross qualities of the learning experience. Labels of this sort tie new learning into our prior experiences. If in the first experiment a pupil thought that the drawing was a cat, he would draw what he thought a cat looked like and not an owl. Verbal associations at the time of learning may transfer to hinder recall and cause us to "forget."

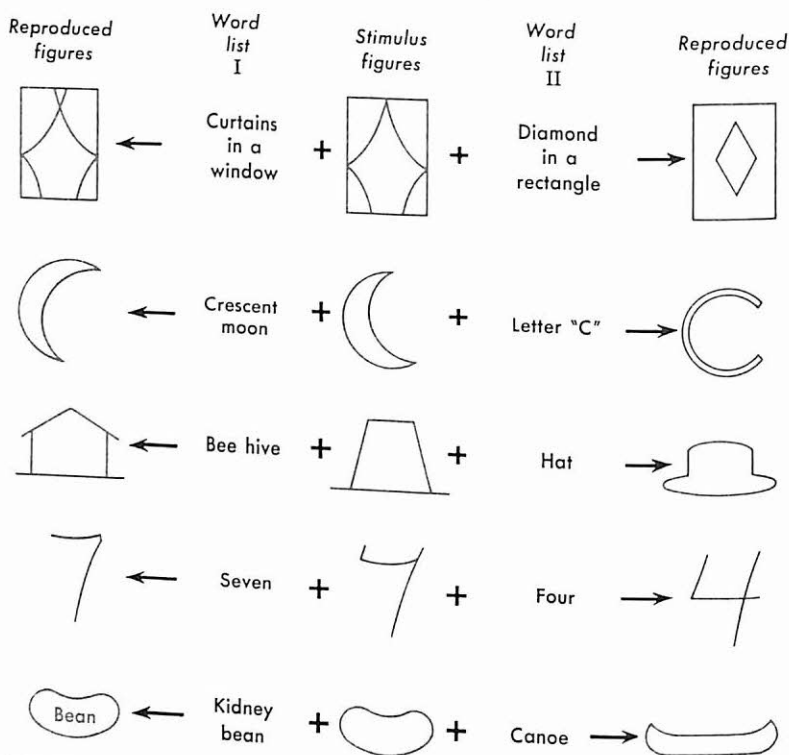


FIGURE 13-7. Reconstruction of experience. The recall reproductions demonstrate the effects on reorganization of labels (based on previous similar experience) associated with the original task. (Adapted from L. Carmichael, H. P. Hogan, and A. A. Walter. An experimental study of the effect of language on the reproduction of visually perceived form. *J. exp. Psychol.*, 1932, 15. P. 80. With permission.)

A change in situations is a common cause for forgetting. Learning takes place with one stimulus pattern. Recall is ordinarily accomplished in a somewhat different situation. A pupil may study, for example, in a room at home with the radio going. He may quiz himself to prepare for an examination. When he has

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difficulty in answering, he glances surreptitiously at the page, which provides him with the minimal cues needed for recall. At examination time the situation is considerably modified. The essential cues around which associations have been made are no longer present. He is now in a classroom, surrounded by other pupils and confronted by the teacher. The sound of the radio is absent. He cannot glance at his book to see the picture or paragraph heading which provided him with the necessary cues while studying. The wording of the questions is quite different from his own questions. There is a groping for cues until the original situation and its details are sufficiently familiar so that he can answer a question. If all associations cannot be brought into focus, recall will be impossible and the individual may say that he is "blocked."

What the pupil does after learning will also modify his ability to recall that earlier learning. Almost everything new that is learned has some detrimental effect on previous learning. The greatest hindrance to remembering under these circumstances is when the old and new learning are perceived by the pupil as being similar. For example, if the pupil learns the names of metallic elements and follows this closely with learning the names of the gaseous elements, he is likely to have more difficulty in recalling the first list than if he had followed it by playing bridge or by learning to prove theorems in geometry. When the intervening activities are dissimilar there is still some effect on forgetting but it is relatively slight. You may be aware of this principle if you have felt justified in cramming for an examination. Cramming usually occurs just prior to an examination when there is least opportunity for interference from intervening experiences. Although cramming is undeniably useful for immediate recall, it does not facilitate meaning, understanding, and other long-range benefits as adequately as spaced study and practice.

Teachers can minimize the effects of interference by being certain that materials are learned in a thorough and meaningful way. Intervening experiences also result in less interference for the more advanced and capable pupil. Therefore, the beginning student and one who learns only at minimal and superficial levels will have difficulty in American History if they first learn a list of

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the major events in Eisenhower's first administration followed immediately by the major events in his second administration. These ideas will be difficult to recall separately because of the similarities—the same person, similar platforms, and the like, all of which will interfere with knowing which events belong to which administration. The advanced American History student will have less difficulty, as will the highly intelligent student, since each will have more background and meaning to keep the two administrations distinct.

All of the causes of forgetting can be counteracted by encouraging "overlearning." Frequent reviews are important, as is motivated practice. Encouraging the pupil to be precise in his use of concepts is a way of providing meaning. Good study and work habits which aid positive transfer will contribute to retention. The scheduling of class periods so that similar subjects do not immediately follow one another will also help combat the effects of negative transfer and thereby facilitate memory.

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Problem-Solving and Reasoning: Correlating and Integrating Past Experiences

PUPILS WILL BE confronted throughout their lives with the problems of a complex society. The school contributes to their problem-solving abilities by helping them acquire useful concepts, attitudes, and skills, all of which can be transferred to guide their behavior. Successful adaptation requires that they also learn to solve problems which have no immediate answer in the cultural heritage but which are of utmost importance to the individual and society. Such individual and social problems might be: Should I attend a technical school or go to a university following graduation from high school? Should our city move our present airport or build a supplementary one? What proportion of a national budget should be spent for educational and defense purposes? Critical and creative thinking requires a similar approach oriented around questions like: What would our world be like today if the electric light or atomic power had not been invented? What changes would have occurred in our financial institutions if there had not been a "bank holiday" in 1933?

To help the pupil learn methods that yield satisfactory solutions the teacher must relate the problems to the pupil's needs. They must be *real* questions for the pupil. Solutions to problems require an integration, a "bringing together" of independent experiences in a manner to suggest several alternatives from which one

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or more may be selected as best. As we shall see in the remainder of this chapter, the details of problem-solving procedures are but a special application of the learning process.

Problems, puzzles, or exercises?

The teacher who is alert to the basic nature of problems is in an advantageous position for making problem-solving a meaningful learning experience for the pupil. The following¹ illustrates how what was intended to be (and should have been) an important question, or problem, for the pupil was distorted into a mere puzzle or exercise:

The teacher wished us to study careers and to think about the problems of making our own career choices. Her reasoning, so far as it went, was based on good psychology; you cannot solve the problem unless you perceive the alternatives; a decision must be based on adequate information about the alternatives, a decision will be much more permanent if the pupil works it out for himself. So she set us the assignment: "Make a career book on two occupations. Select two occupations you would like to work in, and gather information by reading. Then prepare a booklet showing the nature of the occupations and the reasons for and against entering each of them." Some six weeks were allotted to this activity.

My perception of the assignment was somewhat as follows: She wants us to make a Project (that is "Project" with a capital P, referring to a type of artifact almost as conventional in my school generation as a sampler must have been in my grandmother's). She will grade us on it, and I see by the specimens from last year that she looks for well-finished, complete, and fully illustrated notebooks.

What shall I make my report about? (Note that I have long since been shunted from the intended problem, "What vocation should I enter?") I know I'm going to be a chemist when I grow up, so I probably should make half the book about that. I know a lot about the field, and I'll enjoy working that up.

Then for the second occupation . . . I know! I'll choose florist! That will make a first rate notebook. I can get a lot of pictures

¹ From L. J. Cronbach. The meaning of problems. In G. T. Buswell (Ed.), *Arithmetic 1948; suppl. educ. Monogr.* No. 66. Chicago: University of Chicago Press, 1948, 32-43. Pp. 34-35. Copyright, 1948, by the University of Chicago. With permission of author and publisher.

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out of my mother's garden catalogues, and it will be easy to write up a lot of advantages about working with nature and beauty.

With that start, I breezed through the assignment, got a lot of pictures, received the satisfaction of my A, and did no problem-solving about careers until my Senior year in college, by which time I was ready to admit that I was not satisfied with being a chemist.

The description makes clear the distinction between real problem-solving and the mere application of previous modes of response to a minor problem. The pupil in the illustration worked on the assignment not to answer the most important question, but for the immediate satisfaction of meeting the teacher's requirements.

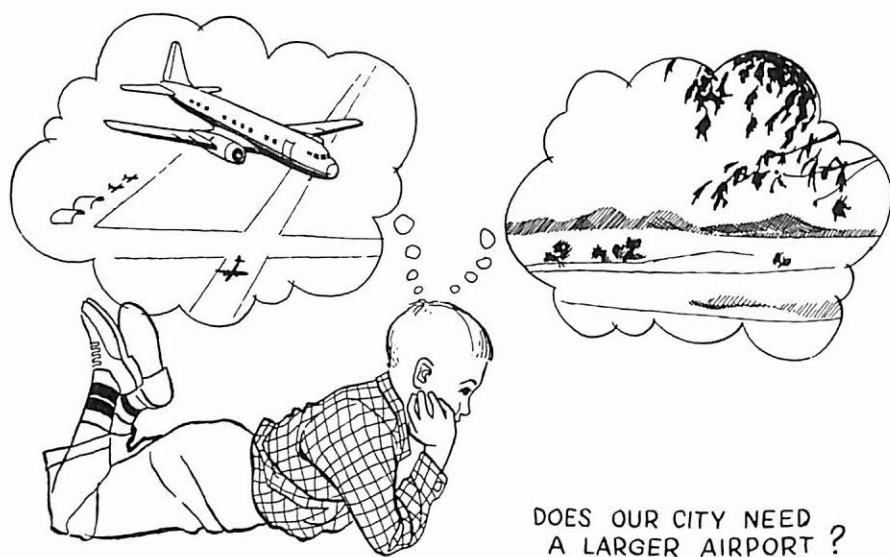


FIGURE 14-1. An important characteristic of all problems is that they pose questions which the pupil has a real desire to solve.

Many of the "problems" that pupils are given in school contribute little to their abilities for problem-solving. For example, solving a quadratic equation when one already knows the process is not a real problem in the sense of this discussion. It is more appropriately labeled an *exercise* (5). The method is directly applied in essentially the same manner time and time again. There is no need for a new approach, no need for integrating

prior experiences, no requirement for discovery, and no delay in finding the appropriate procedure for the correct answer.

An overview of the problem-solving process

Motivation is an important prerequisite of problem-solving behavior. A pupil may want to understand the influence of some special event from an individually unique frame of reference. For example, a community project may threaten his, or his family's, financial welfare or convenience; or a personal decision may promise to influence his future security and happiness for good or ill. The solutions that he seeks have intrinsic value in that they are capable of helping him reach goals related to his basic needs. Left to himself, the pupil does not attempt to arrive at the most enduring "best" answer but at an immediate answer which is best for him at the moment. If problems are viewed as sheer exercises he may attempt to satisfy a standard which is extraneous to the problem itself. Pupil expectations are given consideration by the teacher, for if problems are to be real learning experiences, both teacher objectives and pupil goal expectations must coincide.

Goals in problem situations are not immediately attainable. A barrier exists. This barrier is a lack of the necessary information, attitudes, or skills for arriving at the immediate solution to the problem. Course content may provide the pupil with the necessary information or he may have to search other sources for information bearing on the problem. It is the barrier which makes the task a "problem."

The pupil must interpret the problem situation to determine the skills or pieces of information most relevant to the goal he wishes to attain. What he does at this point may be largely a matter of transfer of what he had learned in similar situations. More often it is the searching for a new integration of previous experiences, interpretations, and provisional tries which may afford possible alternative solutions. When the teacher provides guidance, or otherwise monitors this process, new interpretations are suggested. Much random activity is thereby reduced and the learning process is abbreviated considerably. This saving of time and effort is one of the advantages of formal education.

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As in all learning, the consequences of the pupil's trial behavior are important. Those alternative solutions are abandoned which do not help him to reach a satisfactory answer or which do not confirm the expectations resulting from his interpretations. New interpretations, leading to the need for obtaining new information or to a search for a new organization of experiences, will be made. Those answers which are successful confirm his interpretations and goal expectations. They are the acceptable solutions. Although the consequences of the pupil's activity are primarily determined by his personal evaluations, the teacher does have a role to perform. She may praise him, tell him he is wrong, provide alternative interpretations, or otherwise guide him in his attempts.

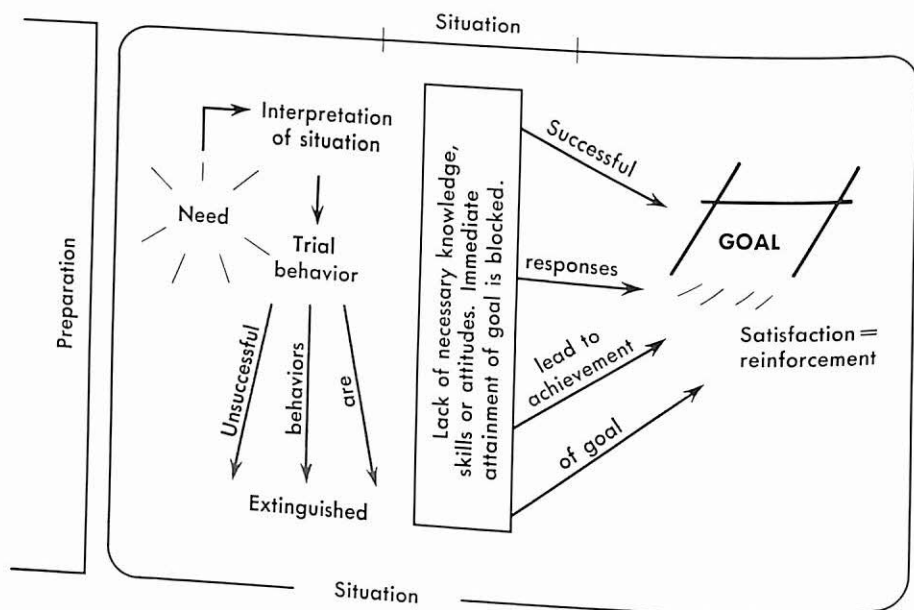


FIGURE 14-2. The steps in problem-solving.

Other things being equal, the facility with which the pupil solves problems is influenced by his maturational level, past experiences, and capacity. These factors are taken into account when the teacher establishes the level of difficulty of the problems to put before the pupil. They are also evaluated in adapting teaching methods to individual differences.

Although we have described the problem-solving process as though it occurred in sequential steps as summarized in Figure 14-2, you should recognize that this was merely an expedient for purposes of analysis. It is likely that many of these steps occur simultaneously. Motivations may change during the course of activity, many cycles of new interpretations and trial behaviors may be made, alternative solutions may be discarded and goals may be modified.

Understanding the problem

The way that a problem is stated and the questions that are asked provide direction and clues to possible answers. If it is a vague statement, there can be little opportunity for the pupil to find the necessary meanings and directions which will lead to adequate solutions. Successful problem-solvers manipulate the directions by shortening them or by emphasizing the essential details *without losing the intended meaning*.² Poor reasoners give the problem statement a haphazard or superficial examination as though it had no relevance to the solution. Some may even fail to read the instructions. If the meanings of phrases or terms are not known they may skip over them.

Sometimes the successful pupil will substitute an illustration or example for a vague term and think in terms of this illustration. The nonsuccessful pupils may consider the term as given without doing anything to reduce its vagueness. Understanding and meaningfulness not only help in an immediate solution but make transfer to similar problems more likely (8).

Helping, guiding, and directing the pupil's efforts toward learning ways of structuring the problem to enable a better comprehension of its meaning cannot be overemphasized as an important part of the teacher's task. Successful problem-solving depends on these *first* processes (19).

² This discussion is based on a detailed comparison of successful and unsuccessful problem-solvers in B. S. Bloom and L. J. Broder, *Problem-solving processes of college students: an exploratory investigation*. Chicago: University of Chicago Press, 1950. Copyright, 1950, by the University of Chicago. With permission of author and publisher.

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The integration of experiences

There is no clear-cut set of "steps" in this phase of the problem-solving process. The pupil seems to go through a cycle involving (a) clarification of meaning, (b) establishing hypotheses about possible solutions, (c) attempting to bring in relevant information, (d) evaluating the extent to which the information bears on the problem, and (e) rejecting the information as being of no use or accepting it as necessary to the solution. These processes may be repeated many times before the solution is found.

In searching for related information, the successful problem-solver constructs hypotheses (intelligent guesses) as to the direction in which the correct solution might appear, or he sets up some standards (criteria) that the correct solution must meet. He might break up a complex problem into simpler subproblems. Alternative answers are considered in a systematic way. If correct, they are accepted. If incorrect, they are positively dropped.³

The pupil who is unsuccessful at this phase may have no plan for attacking the problem. He often arrives at an answer with only superficial consideration of the elements involved. He does not use all of the clues and tries to give an answer on the basis of an "impression." An answer is sometimes selected on a negative basis, i.e., "None of the others appear 'reasonable' so this is probably the right one." This unfortunate person frequently has the necessary information he needs but fails to use it or to recognize that it can be used. Or, he is on the right track with a definite workable plan but gives up too easily on the very plan which would yield good results.

The successful reasoner ties together several isolated experiences and reorganizes them for his solution. There is also evident in his efforts the continual appraisal and evaluation of answers as to their appropriateness. Pupils can be helped to analyze their own procedures by comparing them with successful models (or the "ideal" model). Training and practice in abstracting, analyzing and generalizing from the general to the concrete and vice versa

³ *Ibid.* Pp. 27-29. With permission of author and publisher.

also show considerable transfer to new problems presented (2).

Bias may hinder problem-solving efficiency

Attitudes may transfer to facilitate or hinder problem-solving processes just as they influence other pupil activities. Pupils who feel that reasoning is of little value, who feel that either one knows the answer to a problem at once or not at all, who are easily discouraged and lack confidence in their reasoning ability, are handicapped before they begin.

The personal convictions and values of the pupil may operate in still more subtle ways to hinder logical reasoning. An objective attitude toward the considerations involved in the problem is desired if one is to be successful.

Bloom and Broder show in their study⁴ that pupils become distracted by factors which had nothing to do with the problem at hand. The pupils' concern is with the *ideas* and the *inferences* contained in alternative answers rather than with the question asked. Their convictions about these are so strong that they neglect the basic meaning of the problem entirely.

You can see this influence by examining the results of another experiment (20). Look at the following problems⁵ and determine whether the conclusions *in view of the assumptions* made, are valid or invalid:

[Given:] If this is a desirable neighborhood, then it is close to transportation services. This is not a desirable neighborhood.

[Therefore:] It is not close to transportation services.

Like the subjects in the experiment, you quickly recognize that the conclusion is invalid. There is involved in this kind of reasoning what the logicians call the fallacy of denying the antecedent. It is based on the assumption that "if p then q ; and not p , therefore not q ." As you can see there is no statement with respect to the proximity of transportation in an undesirable neighborhood. (To eliminate the foregoing fallacy, the more accurate statement

⁴ *Ibid.* P. 30ff. With permission of author and the University of Chicago Press.

⁵ From D. L. Thistlethwaite. Attitude and structure as factors in the distortion of reasoning. *J. abnorm. soc. Psychol.*, 1950, 45. P. 443. With permission of author and publisher.

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is symbolically, "if p or q then r , and if not q then s , and not r , therefore s ." Now look at the following:⁶

[Given:] If production is important, then peaceful industrial relations are desirable. If production is important then it is a mistake to have Negroes for foremen over Whites.

[Therefore:] If peaceful industrial relations are desirable, then it is a mistake to have Negroes for foremen and leaders over Whites.

The reader will notice that the logic involved is the same as that in the earlier problem. The conclusion here is also an invalid one,

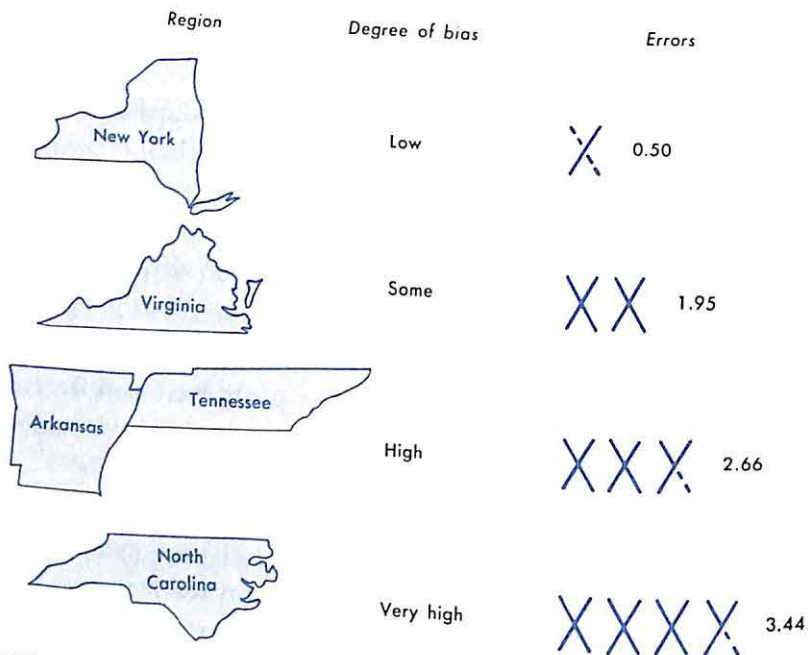


FIGURE 14-3. Errors in reasoning about racial problems are related to degree of prejudice. The pupil with strong beliefs is hindered in solving problems on topics involving their biases. (Adapted from D. L. Thistlethwaite. Attitude and structure as factors in the distortion of reasoning. *J. abnorm. soc. Psychol.*, 1950, 45, 442-458. With permission.)

in view of the assumptions given. Although most subjects were able to recognize that the conclusion in the syllogism having to do with transportation services and neighborhoods was invalid, they

⁶ *Ibid.* P. 444.

made more errors on the industrial situation in direct relationship to the amount of prejudice they had (see Figure 14-3).

Material with high emotional content tends to be perceived less accurately by pupils than objective or neutral material. The greatest amount of distortion of meaning occurs with subject matter which involves the pupil's important attitudes and beliefs. Pupils can also be distracted by many other external considerations, such as opinions about a course, about the instructor, and about examinations.

When young pupils are first exposed to problem-solving it is best for them to work on fairly neutral material. The fewer the distractions at this point, the better. However, it would be virtually impossible, and certainly undesirable, to continue presenting problems void of emotional content throughout the pupil's school career. Everyday problems *do* contain emotional elements which must be recognized. The teacher's task is to help pupils to see the basic questions involved in a problem, to answer these questions objectively and logically, and to avoid being sidetracked by the irrelevant emotional connotations.

Helping the pupil avoid stereotyped behavior

Continuing difficulties in problem-solving are often the results of stereotyped behavior. Finding correct answers to problems requires a considerable amount of variability in pupil responses. Usually they must try several alternatives.

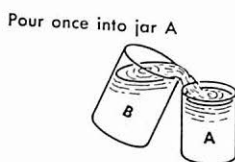
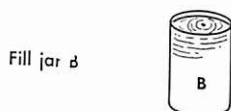
Good reasoners do not rigidly pursue unsuccessful or inefficient approaches to problems. They are flexible in their attempts toward a solution. Poor reasoners, on the other hand, often continue in an inappropriate direction, trying for hours on end to achieve the impossible (12). All children exhibit this characteristic to a considerable extent up to the age of 5 or 6, but it is present in pupils of all ages to some degree (13).

A. S. Luchins (11) has demonstrated the effect of *rigidity* on both public school and college students' attempts to solve problems. The subjects were given tasks in which they were to use three water jars with different capacities. By filling jars and pouring water from one to the other they were asked to arrive at a

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given quantity. One such problem was: given jar A holding 21 quarts, jar B holding 127 quarts, and jar C holding 3 quarts, obtain 100 quarts. The solution to this example was to fill jar B, then pour water into jar A once and then twice into jar C (see Figure 14-4). The formula was $B - A - 2C$.

PROBLEM:	Jar A 21 quarts	Jar B 127 quarts	Jar C 3 quarts	Obtain 100 quarts
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and pour twice into jar C

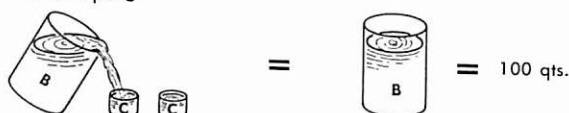


FIGURE 14-4. How the water jar problem is solved. (Adapted from A. S. Luchins. Mechanization in problem solving: the effect of Einstellung. *Psych. Monogr.*, 1942, 54, No. 6. With permission.)

Following this problem the pupils were given four others which were solved by the same formula. Then the next two problems were given as follows:

Given	Jar A 23 qts. 15	Jar B 49 qts. 39	Jar C 3 qts. 3	Obtain 20 qts. 18
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Although these problems could be solved by the original formula, the *first one* could also be solved by the simpler solution of $A - C$, and the second by $A + C$. Having become habituated to the original solution, some pupils failed to see the new possibilities and continued to use the formula $B - A - 2C$.

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Rigid behavior in this illustration is the result of undesirable attitudes toward reasoning. Such pupils, unfortunately, try to arrive at a solution quickly. They feel that if they consider how to deal appropriately with the problem each time they are wasting time. Accordingly, they try what seemed to work best on previous attempts. When pupils are faced with a changing situation they tend to seize upon any positively reinforced (correct) procedure and retain it in spite of its failure in the new situation. Their expectations for positive reinforcement from other less familiar paths are likely to be much lower than those found successful in earlier attempts (19).

Psychological stress hinders problem-solving

When pupils are afraid of failing or are strongly motivated by some other fear or anxiety, they are likely to be poor problem-solvers. Under these circumstances they experience mental blocks, weakness, headaches, and other anxiety reactions. Their productive thinking is disrupted by a compelling preoccupation with inadequacy and failure (10). Stereotyped behavior is the result. In one experiment, students who were placed under *strong* stress produced more rigid responses on the water jar problems than did those under *mild* stress; the latter, in turn produced more rigid responses than those *without* stress (4).

An analysis of the changes in rational behavior under stress compared with no stress is shown in Figure 14-5.

Outstanding in this study by Patrick (17) was the marked reduction of rational, deliberate, and adaptive effort under stress. On the other hand, the stereotyped, primitive tendency to repeat a trial over and over again, and the tendency to remain inflexible even when effort was wasted was characteristic of individuals under conditions that aroused strong fear. Indeed, the college students in this study required almost as many attempts to solve an experimental problem as a 26-months old infant!

When pupils are overly excited or strongly threatened by failure we can expect full well that the outcomes are going to be similar to those just described. Pupils who find competition exceedingly motivating, who must work rapidly to keep up with

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the rest of the class, and who work under the threat of failing grades or a punitive teacher can be expected to produce unvarying and stereotyped responses.

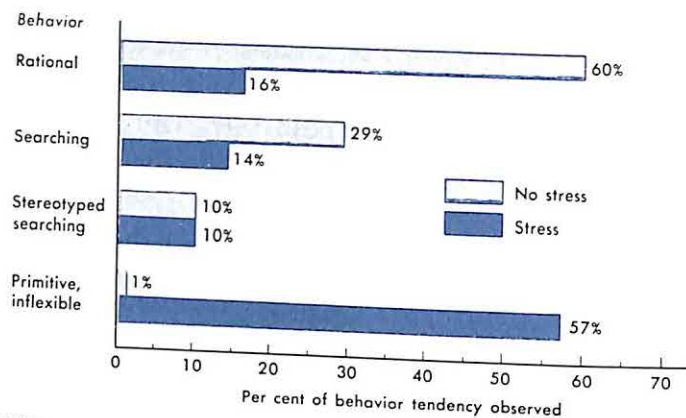


FIGURE 14-5. Psychological stress blocks rational behavior. When pupils are under emotional strain, stereotyped, primitive, and inflexible behaviors may be substituted for rational behavior. (Adapted from J. R. Patrick. *Studies in rational behavior. J. comp. Psych.*, 1934, 14. P. 167. With permission of author and Williams and Wilkins Co.)

Creative thinking

Modern science, industry, communication, and the arts are replete with the products of creative thinking. Inventors find new ways of doing things. They plan and build new devices. Scientists discover new relationships and find new solutions to problems. Poets, musicians, and artists find new forms to express familiar experiences. The contributions each makes to our personal security, daily convenience, and enjoyment are well known. On the other hand, there is never an over-supply of creativeness. High premiums are paid in the form of increased financial remuneration, higher status, and prestige to those who are truly creative. Whatever the teacher can do to contribute to the development of creativity is of importance to the long-range benefits which can accrue to society.

Fundamentally, creative thinking involves most of the same factors and processes that are involved in problem-solving and

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transfer. The different factor is the requirement that the pupil break away from old ways of perceiving and reject hypotheses which are directly transferred from previous learnings. He must learn to solve important problems by using familiar materials and methods in new ways. He must break into new lines of activity that might not have occurred to him before. This is illustrated in the following example of young Gauss (who in later life became a famous mathematician) solving a mathematics problem in grammar school:⁷

The teacher gave a test in arithmetic and said to the class: "Which of you will be first to get the sum of $1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10$?" Very soon, while the others were still busy figuring, young Gauss raised his hand [and said,] "Here it is." "How . . . did you get it so quickly?" exclaimed the surprised teacher. Young Gauss answered—of course we do not know exactly what he did answer, but on the basis of experience in experiments I think it may have been about like this: "Had I done it by adding 1 and 2, then 3 to the sum, then 4 to the new result, and so on, it would have taken very long; and, trying to do it quickly, I would very likely have made mistakes. But you see, 1 and 10 make eleven, 2 and 9 are again—must be—11! And so on! There are 5 such pairs; 5 times 11 makes 55." The boy had discovered the gist of an important theorem. [This is illustrated in Figure 14-6.]

Here Gauss was able to break away from the traditional method, a necessary condition in creative thinking, of doing addition. A new and important discovery was the result.

It is perhaps obvious that new discoveries cannot be made by just anyone at any time. The "accidental" discoveries of a vulcanizing process for rubber and a long-lasting filament for the electric light bulb could not have been made by "just anyone being there." Discovery requires a period of *preparation*. Given the identical circumstances provided Fleming in his bacteriology laboratory, it would have been virtually impossible for a person with no training in bacteriology to have discovered penicillin. Even persons with training in bacteriology, if they discovered

⁷ From M. Wertheimer. *Productive thinking*. New York: Harper & Bros., 1945. P. 90. With permission of publisher.

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that staphylococci cultures were being destroyed by penicillin mold (as happened to Fleming), might not have investigated further. They might have blamed it on bad laboratory technique, discarded the culture plates, and started over again. The period of preparation also exists for the poet and the artist. Not only is training necessary but each new composition requires a period during which the raw material must be assembled.

The problem: Add the numbers 1 through 10

Traditional solution:

$$1 + 2 = 3$$

$$3 + 3 = 6$$

$$6 + 4 = 10$$

10

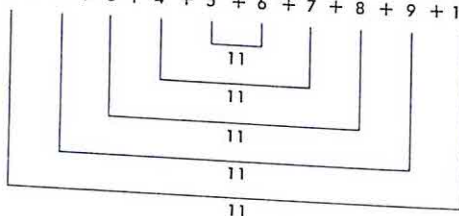
•

etc. to

$$45 + 10 = 55$$

Gaussian solution:

$$1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10$$



$$= 11 \times 5 = 55$$

FIGURE 14-6. A diagram comparing the traditional and Gaussian solution to the problem of adding the numbers 1 through 10. (From M. Wertheimer, *Productive thinking*. Harper & Bros., 1945. P. 90. With permission.)

The period following preparation is primarily one of *formulation*. Fleming did not discard the plates on which the staphylococci cultures were destroyed by penicillin mold. Perhaps he raised such questions as, "Is the mold capable of destroying all germs? Can the mold, or some by-product of the mold, be injected into humans for the prevention and control of disease? Is what I have seen on this culture merely an unusual laboratory occurrence or is it something that will always occur?" Questions like these are raised in the period of formulation in which many ideas may occur to the individual. He tries these ideas out and discards many, but some reoccur over and over again. The latter embody the ideas which are to be developed.

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The final stages in creative thinking involve a period of *verification*. Fleming, for example, tested some of his questions with laboratory experiments. The mathematician provides proof for his theorems. The scientist uses experimentation. The analogous stage in the creative arts is critical revision. The artist, for example, discriminatingly inspects the picture as a whole, makes additions to detail, or shades objects to clarify them.

Again the reader is cautioned that there is no formal sequence in which these stages occur. The creative person may carry on all of the stages at the same time. However, as you can see in Figure 14-7, there is some tendency for a greater amount of preparatory activity in the early stages followed by more formulation and revision or verification activity in the later stages (9).

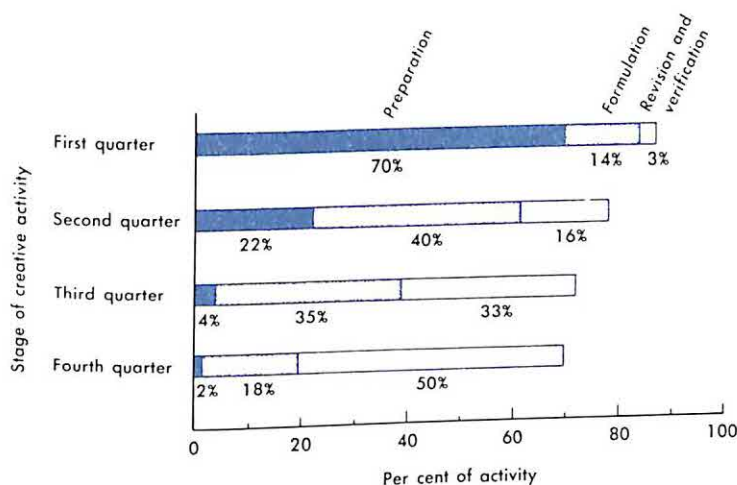


FIGURE 14-7. Problem-solving activities of artists and poets during four quarters of a creative enterprise. (Adapted from C. Patrick. Creative thoughts in poets. *Arch. Psychol.*, 26, No. 178; and Creative thoughts in artists. *J. Psychol.*, 4, 35-73. Adapted from the presentation in D. M. Johnson, *Psychology of thought and judgment*. Figure 2.1. Harper & Bros., 1955. With permission.)

Pupils need to know the formal rules of logic if they are to reason properly. They need to become conversant with the accepted facts in any field. However, dependence of pupils on *memorized* formulas, methods, concepts, and skills, without understanding is an enemy to learning not only in mathematics but in

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all education. The more intelligent pupils should be encouraged to search for new procedures, as Gauss did.

Pupils become limited in their ability to see new uses for familiar objects when the use-meaning has become deeply entrenched in their thinking. When objects have been used for one purpose, pupils may fail to use these objects for other purposes even when a new use would help them to solve a problem. The use-meaning of a paper clip as an object for holding paper may be so much a part of the pupil's understanding that he fails to see it can be unbent to form a hook. Or a box may be so often viewed as a container that he may fail to see it as a possible platform (6). Even in experiments (1) where the use of an object may be restricted to a single purpose for a very limited time, a use-meaning interferes with the solution of new problems for a day and continues to some extent for as long as a week, as shown in Figure 14-8.

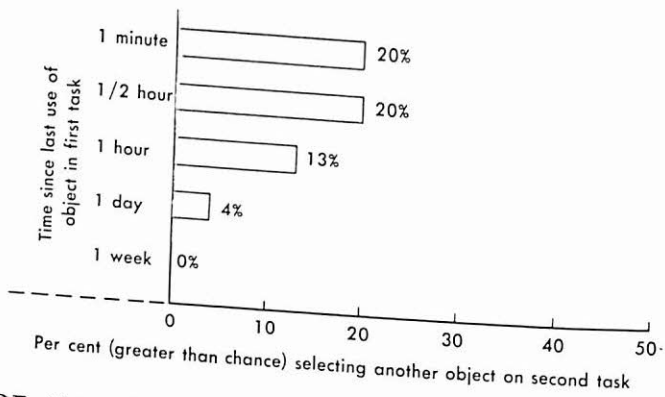


FIGURE 14-8. The immediate use of an object hinders the individual from seeing its use for other purposes. This is one reason why problems sometimes are solved more easily when they are left for awhile and returned to later. (Adapted from R. E. Adamson and D. W. Taylor. Functional fixedness as related to elapsed time and set. *J. exp. Psych.*, 1954, 47, 122-126. With permission.)

The "brain-storming" technique of posing such questions as "What new uses can be made of these products?" has been found in industrial circles to be one way of overcoming the hindering effects of rigid use-meanings in creativity. To illustrate, there are at least 50,000 uses for gases which are the by-products of coke

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ovens. Industrialists believe there may be as many as 50,000 more uses. One worker saw pieces of surgical tubing being thrown away into a waste barrel. He asked, "Why not cut them into rubber bands of the size and width used by the millions to hold small items together?" A new use for a previous waste was discovered. Such incidents are everyday occurrences in industry.⁸

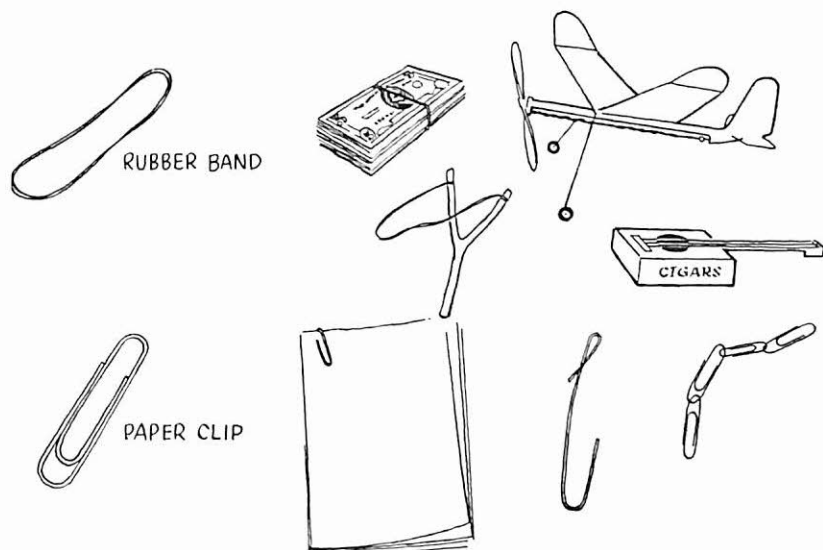


FIGURE 14-9. What new uses can you name for these common objects? The "brainstorming" technique requires the overcoming of traditional use-meanings.

Creative thinking requires that the pupil be continually inquisitive about such questions as "What about . . .?" and "What if . . .?" Then they should be continually probed with the question "What else?" (14, p. 229). Once the pupil knows the logic of reasoning and has the necessary facts, his creativity is limited only by the bounds of ability, fixation and interference from previous learning. The teacher can promote creative processes by *guiding* the pupil's thinking instead of *telling* him the right answer (18). The intellectually able pupil should be encouraged to develop personal and unique approaches to life's problems.

⁸ The illustrations presented here, and many others, appear in A. F. Osborn. *Applied imagination: principles and procedures of creative thinking*. New York: Charles Scribner's Sons, 1953. P. 232. With permission of publisher.

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Concept Growth: Teaching for Discrimination, Generalization and the Use of Symbols

SO MUCH OF OUR EXPERIENCE involves symbols that we are apt to be completely unaware of their existence, nature, and importance. Words, numbers, gestures, and formulas are among the many signs which are taken for granted as realities without recognizing that they represent, or stand for meanings, ideas, and experiences. If you but observe your own activity or that of a pupil during the course of a single day, you cannot help noting man's dependence on symbols and their corresponding meanings. On the way to school, the pupil waits for the green light before he crosses the street. The green light (symbol) *means* that it is now all right for him to cross (concept). He may smile or nod to a friend, *meaning* that he recognizes him and conveys a greeting. In his geography class, he reads maps which *represent* territories. In arithmetic the plus sign *means* to add, the "times" sign to multiply and the minus sign to subtract. These are but a few of the simpler symbols and meanings that the pupil encounters during the day.

The important role of experience in the development of conceptual meanings is vividly illustrated in the following excerpt from John Tyndall's, *Fragments of Science*.¹

¹ John Tyndall, *Fragments of science*, Vol. I. P. 283. In *Science*, 1955, 122. P. 1009. With permission of *Science*.

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The child grows, but is still an experimenter: he grasps at the moon, and his failure teaches him to respect distance. At length his little fingers acquire sufficient mechanical tact to lay hold of a spoon. He thrusts the instrument into his mouth, hurts his gums and thus learns the impenetrability of matter. He lets the spoon fall, and jumps with delight to hear it rattle against the table. The experiment made by accident is repeated with intention, and thus the young student receives his first lessons upon sound and gravitation. There are pains and penalties, however, in the path of the enquirer: he is sure to go wrong, and Nature is just as sure to inform him of the fact. He falls downstairs, burns his fingers, cuts his hand, scalds his tongue, and in this way learns the conditions of his physical well-being. This is Nature's way of proceeding, and it is wonderful what progress her pupil makes.

How man uses symbols and concepts in everyday living

The concepts that man uses are inventions for describing the world around him. He discovers that some objects have similar characteristics and groups these objects accordingly. If they have much mass they are called "large," if they have great density they are called "heavy." Events also have certain characteristics which permit grouping. Those that have their roots in the past and which have a definite bearing on the progress of nations are called "historical." If they are imagined they are called "fictional." Concepts may be formed on the basis of many other characteristics such as space, time, causation, and innumerable bases that permit objects, events, or ideas to be grouped. On their accuracy rests all progress and development in the sciences, arts, humanities, and the technologies. Their importance is felt in every field of training whether in teaching, engineering, the sciences, or the trades.

The use of symbols for conveying the meanings of concepts is one of the major characteristics of a modern culture. History has been transmitted by them down through the ages, from the first cave man drawings to later abbreviated drawings and hieroglyphics and still later language systems. In this way the records of philosophy, mathematics, and history have contributed to the growth of civilization. Modern cultures have thereby profited by the discoveries and the mistakes of earlier generations.

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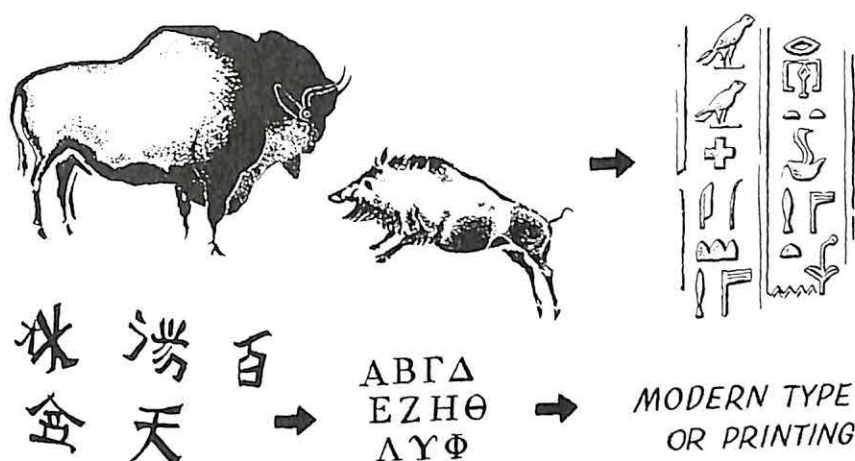


FIGURE 15-1. The cruder forms of symbolic representation illustrated in the early cave drawings and Egyptian hieroglyphics were the forerunners of today's efficient language systems.

The value of concepts is not limited to communication. By classifying events according to the symbols that represent them man can study their relationships. They can be used in reasoning and thinking. In logic, science, and mathematics they can be used to derive new relationships. Syllogistic reasoning, physical laws and principles are of this nature. Archimedes' principle that an object is buoyed up by a force equal to the weight of the water it displaces is an illustration of causation at a very simplified level. At the other extreme of complexity is Einstein's theory of energy.

In even the simplest of cultures there are many hundreds, if not thousands, of concepts to be acquired. The pupil's task is proportionate to the complexity of the society around him. One study has estimated that more than 5,000 new terms are encountered in prerequisite courses to a home-making curriculum. To learn these terms alone is difficult; to learn the meanings of the terms is even more difficult.

Concepts determine to a large extent what the pupil knows, what he thinks, and accordingly what he does. If he is permitted to learn empty words and to by-pass meanings, then his success

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both in and out of school is certain to be limited. It should be clear that one of the important concerns of the teacher is helping pupils to develop adequate understandings and the use of symbols.

The teacher's role

Schools were instituted originally to give instruction in the proper use of symbols. In our country the pupil's first educational experiences are heavily weighted with the learning of concepts and related symbols. The major foci of curricular content require that the pupil be immediately concerned with the acquisition of skills in reading, writing, and arithmetic.

In the elementary school of the past the pupil was literally "plunged" into oral reading and the alphabet. There were periods for penmanship and oral spelling. There was drill in arithmetic. Through the influence of European educational leaders such as Rousseau and Pestalozzi, and those in our own country such as Horace Mann, Henry Barnard, John Dewey, and many others, teaching procedures have changed and school objectives have been broadened (9). Today, educational goals include physical security, ability to get along with others, consideration of others, and acceptance of the values of the society. But the pupil's use of concepts is still a major part of the curriculum, whether the objectives are understanding of our physical world, appreciating beautiful objects, being able to communicate with others, or understanding quantitative relationships. In each of these curricular objectives there remains as a central core the mastery of those symbols which contribute to the socialization process. Pupils must know factual understandings, words, numbers, and a multitude of other simple and complex concepts. All help him to describe the world about him and to function effectively in his culture.

The use of meanings with their associated symbols is universal among all cultures. However, each society has its own set of concepts, peculiar to its requirements. For example, in our society, yams are relatively unimportant and to most of us a single name is sufficient to identify this food. To the Trobriander, however, the yam is an important source of livelihood and ten names, each

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with highly refined distinctions in meaning, are required. Dorothy Lee's vivid account of the many meanings given this tuber in the Trobriander tribe follows:²

If I were to go with a Trobriander to a garden where the *taytu*, a species of yam, had just been harvested, I would come back and tell you: "There are good *taytu* there; just the right degree of ripeness, large and perfectly shaped; not a blight to be seen, not one rotten spot; nicely rounded at the tips, with no spiky points; all first-run harvestings, no second gleanings." The Trobriander would come back and say "*taytu*"; and he would have said all that I did and more

In fact, if one of these were absent, the object would not have been a *taytu*. Such a tuber, if it is not at the proper harvesting ripeness, is not a *taytu*. If it is unripe, it is a *bwanawa*; if it is overripe, spent, it is not a spent *taytu* but something else, a *yowana*. If it is blighted it is a *nukunokuna*. If it has a rotten patch, it is a *ta-boula*; if misshapen, it is an *usasu*; if perfect in shape but small, it is a *yagogu*. If the tuber, whatever its shape or condition, is a post-harvest gleaning, it is a *ulumadala*. When the spent tuber, the *yowana*, sends its shoots underground, as we would put it, it is not a *yowana* with shoots, but a *silisata*. When new tubers have formed on these shoots, it is not a *silisata*, but a *gadena*. An object can not change an attribute and retain its identity. Some range of growth or modification within being is probably allowed, otherwise speech would be impossible As soon as such change, . . . is officially recognized, the object ceases to be itself.

It is the teacher's role to transmit the meanings of symbols in ways that will make them maximally useful to the pupil. If the symbols taught do not contribute to the socialization process in some way, they have no place in the curriculum. To accomplish this objective the teacher needs a thorough understanding of the culture in which she lives, her subject-matter area, the method by which the pupil acquires concepts, and characteristics which affect their acquisition. We examine these factors in greater detail in the remainder of the chapter.

² From D. Lee. Being and value in a primitive culture. In C. E. Moustakas (Ed.) *The self: explorations in personal growth*. New York: Harper & Bros., 1956. Pp. 121-122. With permission of author and publisher.

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Pupils categorize their experiences

The world is full of differences capable of being perceived by human beings. Few events are perceived in exactly the same way on successive occasions (2). In colors alone there are estimated to be over 7 million variations, all of which can be discriminated by man. Sounds, too, can be discriminated over a range of thousands of different frequencies. Many, if not most, of these sounds and colors are experienced in a short period of time.

The important idea here is that the world we know is constantly changing. If a wholly different response were made to all of these minor changes and fluctuations our world would be complex indeed. However, our environment does have considerable stability. The tendency to group or pattern environmental objects is continuously present. This process is simply illustrated in Figure 15-2. As you can see, the dots and lines are not seen as single entities but are seen as patterns. Whenever the pupil experiences the unfamiliar, he identifies those features which are most familiar to him on the basis of past experience, just as you did in looking at Figure 15-2. Simplicity is further attained by placing objects in categories and attaching a name to the category. We do not have to name all 7 million colors for ordinary everyday use. About a dozen names suffice for most people.

By establishing categories we reduce the number of discriminations that have to be made (2). When new objects with similar characteristics are encountered we place them in an existing category. If a new shade of yellow is encountered we can call it yellow without renaming it or without learning a new name for it. In this way the environment is almost always meaningful. If some perceptual experience cannot be explained, we say it is uncanny and feel insecure about it.

The tendency to simplify may be carried to extremes and consequently to errors (7). Children frequently exhibit this tendency in their categorizations. Pupils who do not understand problems or who find words and perceptions unfamiliar or too difficult try to make them meaningful in terms of the experiences they know. In the salute to the flag, they have been found to say, "I pledge allegiance to the flag of the United States of America and the

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Republicans for which it stands, one nation *invisible . . .*"; or, "I led the pigeons to the flag . . ." Children have responded: Guitar—"you spread it on the streets"; Muzzle—"your arm is strong"; Roar is confused with raw and row. Such errors, as well as those which occur often in reading and thinking, are seldom random but are attempts to bring clarity to perceptually fuzzy situations.

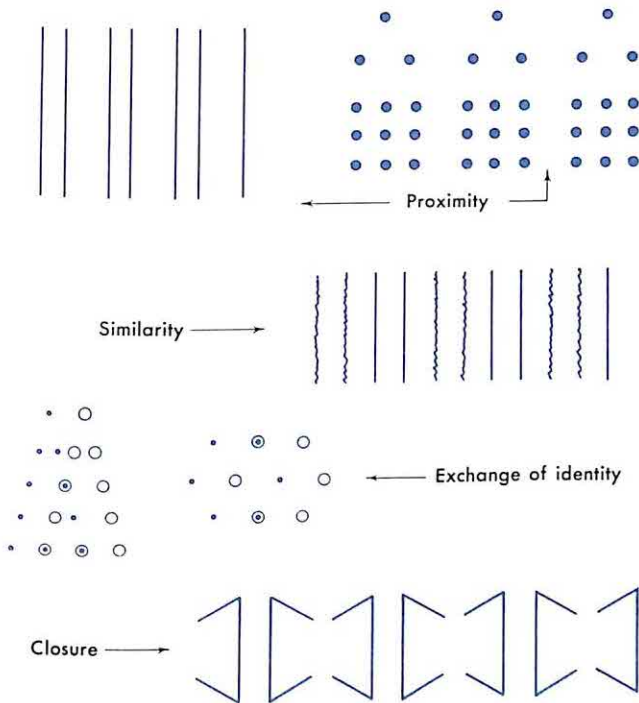


FIGURE 15-2. Examples of some principles governing the patterning of experiences as described by the Gestalt school of psychology. (From K. Koffka. *Principles of Gestalt psychology*. Harcourt, Brace & Co., Inc., 1935; and W. Ellis. *A source book of Gestalt psychology*. Harcourt, Brace & Co., Inc., 1939. With permission.)

Teaching the pupil to discriminate

The pupil's first concepts are usually based on gross properties of events, situations, and objects. He does not perceive the small details. He first knows microorganisms as germs before he knows about their beneficial as well as their harmful properties, or before he knows the differences among viruses, bacteria, and molds.

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He may first know a gas by the fact that it rises in air before he recognizes that there are heavier-than-air as well as lighter-than-air gases. As he gains more experience and notices the properties of objects, his concepts grow in number and precision. There is, in principle, no limit to the number of concepts that he might have or in the ways he might combine them to form groupings for precise meaning (12).



FIGURE 15-3. Concepts permit pupils to make discriminations. However, communication is difficult, if not impossible, when the meanings are not precise.

Discriminations are learned through widely varying experiences. The teacher should encourage the pupil to discover for himself the identical elements in all of the situations, or the common relationships. If the young child is merely shown a clock and told that it is a way of measuring time, he may learn only that time is restricted to hours, minutes, and seconds. Further meanings are associated with time by discriminating between night and day, the past and present, the seasons, and between A.D. and B.C. That such concepts are sometimes developed inadequately was illustrated in a study (15) in which pupils were given an "absurdities" test in-

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volving Caesar's conquest of Britain. The children recognized that such things as gunfire did not exist in Caesar's time but they missed the absurdity of February 30th, and the fact that 55 B.C. was three years later than 58 B.C.

Showing pupils widely different kinds of objects is probably the best procedure in the first stages of concept learning. For example, verbs are not like nouns; or marine life is not like land life; or organic materials are not like mineral matter. Sometimes this experience can be provided by direct contact with the objects, as is done in the laboratory where the concepts in chemistry or physics are developed by many exercises designed to make the properties of elements, compounds, and mechanics distinct. Field trips in social studies and class projects are effective means of providing the variety of experiences required for developing breadth in concepts (5). Oftentimes direct experience is impractical, as it would be in learning about customs in foreign countries. In these cases the teacher must depend upon movies or written stories to provide pupils with vicarious experience.

Reward and nonreward are important conditions for learning to discriminate. Pupils need to be given a chance to make fine distinctions. When mistakes are made, they can be corrected and the appropriate distinctions can be rewarded. The following is an illustration:

Mr. Sills teaches pupils in his general science class the difference between chemical and physical change. He thinks the pupils have these concepts but wants to make sure. He has placed on the bench before his class a rusty nail and a bent nail, a caramelized piece of sugar and some granulated sugar, a piece of ice and a beaker of water, and crystals of iodine and an iodine solution. Pupils then make discriminations as to which of these are chemical and which physical change. If they are correct they are rewarded by good grades or praise. If they are wrong or inaccurate he corrects them or allows the pupil an opportunity to discover for himself why he was in error.

More refined discriminations are in order after this exercise. Mr. Sills has his pupils discriminate between chemical actions in which precipitates are formed, in which solutions become clear, in which heat is absorbed, in which heat is produced, in which solids are

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formed out of combinations of liquids and in which gases are produced out of liquids.

Here we see that initially Mr. Sills provided his pupils with an opportunity to see the relatively gross differences between physical and chemical change. They have an opportunity to abstract out the characteristics of each, just as a child abstracts the color red, from red wagon, red dog, red leaves, and Red Riding Hood, to form a concept of red. But concepts to be precise must allow for still further experience adding to the breadth of meaning. Hence, the second set of exercises were provided for broader experience, requiring refined discriminations.



American children are seated with Japanese children in the tea ceremony. Experiences like this help children to appreciate and understand the manners and customs of foreign lands.

Reward is an important influence on the development of discriminations, even in the absence of the teacher. When the pupil uses a word incorrectly in play or social activities, he will be corrected by others around him, by errors in his own exploratory activities or by the disapproval of others. As more challenges are

provided, the pupil is required to adjust to more aspects of his environment. Greater are his opportunities for perceiving new details and developing more precise concepts.

Naming aids discrimination: Vocabulary growth

When different names are attached to similar but different aspects of nature the problem of stable discriminations becomes much easier (4). Words help the pupil to identify distinctive features in his environment. Objects, categories, or groupings which are distinctively different are given different names. Consequently, they produce different expectations. Irresponsible and responsible are such terms. If a person is responsible we have a stable expectation that here is a helpful person, one who can be trusted, works diligently, and so on. "Irresponsible" causes us to expect responses of laziness, "shiftless" attitudes, and the like, leading to distrust of the person. Different labels (terms, names, or words) induce different patterns of behavior. When we use the same label for different classes or categories we expect that they are similar and respond to them in the same way. If a person who is really responsible is called irresponsible he may be reacted to as though he were irresponsible. This transfer characteristic of concepts is typically useful, for it enables us to generalize meanings from one situation to another by the use of a word or words.

Since naming is so important in identifying discrete features of experience, teachers of all grades are concerned with helping pupils accurately label the experiences and objects in their environment. In this way vocabulary growth and meanings are promoted. The importance of first-hand activities is readily recognized by most teachers. However, a common failure is neglecting to help the pupil see differences in the meanings of words.

The procedures used by teachers for providing direct experience are well known. The microscopic world comes to life under the microscope. To watch an amoeba engulf and ingest a particle of food is more exciting than reading about it. The aquarium provides a window to the activities of marine life. The laboratory brings realism to reading, whether in chemistry, physics, or biology. The problems in social studies are met at first-hand by

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field trips through the community. Foreign peoples and customs are brought into the classroom by television and movies. Adjustments in social interaction are met head on in group planning and group activities.

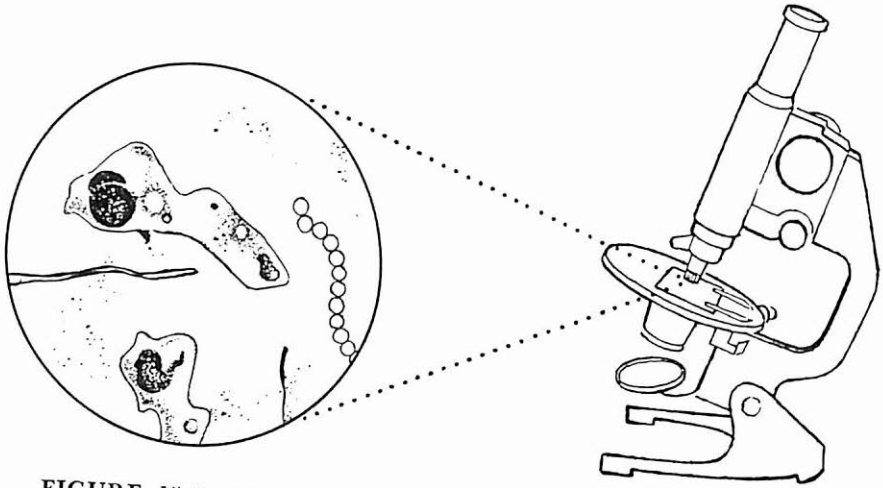


FIGURE 15.4. The microscope is the window to experience with diminutive life.

All of these techniques have high potentiality for building concepts. On the other hand they may be completely sterile unless the pupil's curiosity about the characteristics of his experiences and their associated labels is stimulated. The pupil should be encouraged to ask questions such as "*What is this?*"; "*Is the (paramecium) the same as the (amoeba)?*"; "*What is the difference between (organic) and (inorganic) compounds?*"; "*What is the name for this?*"; "*What other names is it called by?*" Even though the pupil may not ask these questions directly, such self-queries should be stimulated by the teachers and their answers discovered or pointed out during the learning process. This means that "nature" study should not be restricted to loosely organized field trips or the reporting of the first robin; nor should boys and girls restrict their microscopic observations to "seeing" an amoeba. Nor should reading be a matter of naive acceptance. The teacher should promote a continuous habit and attitude of inquisitiveness.

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Pupils learn concepts through context

The child first learns the meanings of words in concrete situations where he can actually examine, handle, point to, and *name* objects. Later as he develops and becomes more mature, the meanings of words are learned in a verbal framework or context. He uses the words and meanings he already knows as tools for learning new words. This is interestingly illustrated in an experiment by Werner and Kaplan (18). A Word Context Test was used which contained 12 sets of problems. Each set was composed of six statements. Each statement in a set contained an artificial word whose meaning was to be discovered by the child. The problems were like this one:

I. *Corplum** [stick]

1. A corplum may be used for support.
2. Corplums may be used to close off an open space.
3. A corplum may be long or short, thick or thin, strong or weak.
4. A wet corplum does not burn.
5. You can make a corplum smooth with sandpaper.
6. The painter used a corplum to mix his paints.

* From Werner and Kaplan (18). P. 3. With permission of author and publisher.

The meaning is determined by finding another word which makes "sense" in all statements. Inadequate meanings may arise if only sounds are used to identify the word or if sentence structure is not understood. Different words may be used in each sentence but the most precise meaning of "corplum" is learned in the context of the entire set of statements.

The words already known by the pupil help him build new labels and thereby identify distinct features of his experience. Learning through context is almost an impossibility for the very young child because of the paucity of his vocabulary and his inability to recognize that words occur in certain sequences more than in others. This idea is all too familiar to those who have used the phrase, "You are quoting me out of context, that is not what I mean."

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Generalization and concepts

Both the processes of discrimination and generalization are important in providing breadth to a pupil's concepts. Sometimes this may result in a dilemma. If the pupil has started out with a generalization, he has been made to see that selected groups of things, events or ideas have something in common. If his concepts are to be made precise, he has to be shown how certain other objects or events differ. For example, he may have learned first that all birds nest in trees. Then he is shown that some birds also nest in the ground, under eaves, or in chimneys. His generalization must then be revised. The more usual instance is that the child is first taught to observe small differences in nature and to give them names. Then, in making generalizations, he must overlook some of these differences and give them new names. The names one attaches to an object or event tells both what the object *is* and what it is *not*. As the name comes to include more cases, or more events it becomes more abstract, i.e., it is a more generalized concept. Notice how the terms *Blacky* (a pupil's pet cat), *cat*, *animal*, and *life* proceed from the concrete to the more abstract, and how each of the names includes the characteristics of all those preceding it in the series, but also overlooks many of the characteristics which were important discriminations at the beginning of the series.

You can see this process more concretely by looking at the collection of stimuli shown in Figure 15-5. What are the first discriminations that you make? What kinds of categories are possible? What is the most general category? What features are included and which are overlooked in forming each category?

Generalization is to some degree always present in concept formation. It is the process by which the pupil sees relationships. The extent to which the pupil can generalize, i.e., can identify an object as a member of another class (rock is mineral, democracy is a form of government), provides an indication of the breadth of meaning he has acquired. The degree to which he can discriminate, i.e., indicate by different labels the variations within a class, provides an indication of precision of his meanings. A generaliza-

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tion becomes most useful when the pupil experiences the concepts in as many different contexts as possible. For example, generalization about classical music becomes possible after the pupil encounters the music in many settings, and through a study of the composers, of the forms of composition, or of the historical period in which music assumed a particular character.

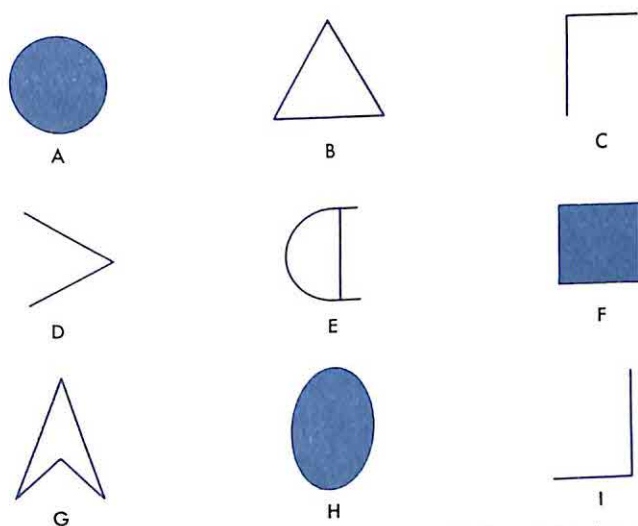


FIGURE 15-5. A collection of figures which might be used in a study of concept formation. How many classifications can you make? (From W. E. Vinacke. The investigation of concept formation. *Psychol. Bull.*, 1951, 48. P. 4. With permission.)

Some guideposts to concept growth

Concepts must have similarity of meaning from person to person before adequate communication and thinking become possible. This is not achieved suddenly. Its beginnings appear in infancy and continue throughout the pupil's development. The teacher must be able to recognize the characteristics of pupils' concepts at various ages if she is to understand them adequately and contribute to their growth. Their emergence is marked by *qualitative* changes, or changes in meanings such as richness of associations, accuracy, and precision. Changes occur in breadth and number of concepts and are reflected primarily in the scope of the pupil's vocabulary.

Concept growth is reflected in the way children form categories.

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In an experiment by Sigel (13), children 7, 9, and 11 years of age were asked to classify twenty toy objects varying in color, form, texture, and representation: a blue and red plastic lounge chair, a brown metal soldier, a green plastic truck, and a plastic man in a

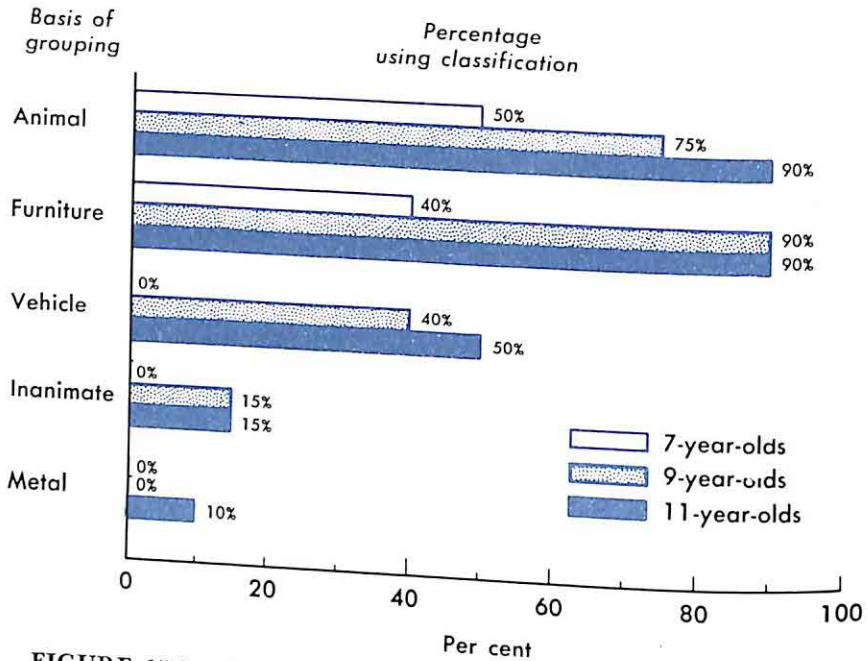


FIGURE 15-6. The percentage of children in three age groups identifying classifications of toys. Note the growth from perceptual classification based on structure to conceptual classification based on abstract classes. (Adapted from I. E. Sigel. Developmental trends in the abstraction ability of children. *Child Develop.*, 1953, 24. P. 138. With permission.)

black suit and white shirt, for example. They were asked to put those things which were alike in any one way in one pile and those that were alike in other ways in another pile, and to make as many piles as they wanted. The seven-year-old group classified the objects principally on the basis of perceptual characteristics such as the use of the objects, similarities of structure, and sharing a common geographical location. The eleven-year-old children grouped the objects on the basis of their conceptual characteristics, treating them as members of an abstract class, such as living and

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nonliving, furniture, human, or vehicle rather than on their over-all appearance. These findings are summarized in Figure 15-6.

These processes are of course the beginnings of an accurate use of vocabulary as further demonstrated by Welch and Long (17). Pupils in their preschool years have a number of concepts which they are unable to name, i.e., they categorize objects with common properties but are unable to provide a label. With further language development, more and more discriminations using words occur. They are able to grasp some of the simple categories and give them names. Then they combine these to form hierarchies which in turn form broader and more inclusive categories. Then they combine some of these and give them names which discriminate between groups. To illustrate, they say that men and women are people, and that apples and potatoes are food. Later they combine these concepts into still more complex categories. They label potatoes as a food-vegetable and apples as food-fruit; soldiers are people-men and nurses are people-women. After their fifth or sixth birthday many more classes are combined into one category, each making the names used more discrete. In general, the more classes there are in a category the more abstract the concept becomes. It has been noted that abstract concepts like discipline, religion, and molecular structure are harder to grasp than concrete concepts like tree, stone, and house. Heidebreder (6) has shown that among college students concrete objects are learned most easily, spatial forms next, and number concepts least easily.

The variety of a pupil's concepts is reflected in his vocabulary. His solutions to verbal problems are highly related to his supply of words. Each word represents a relatively discrete experience which can be easily identified. Therefore, his vocabulary provides a rough measure of the concepts he has. There is a substantial correlation between the number of words he uses and his concept scores (16). Although the child ordinarily understands more words than he is able to speak (11, 12), the estimates of vocabulary shown in Figure 15-7 provide a useful indication of the pupil's basic conceptual abilities at different grade levels. Note the wide range of vocabulary development at any one grade level.

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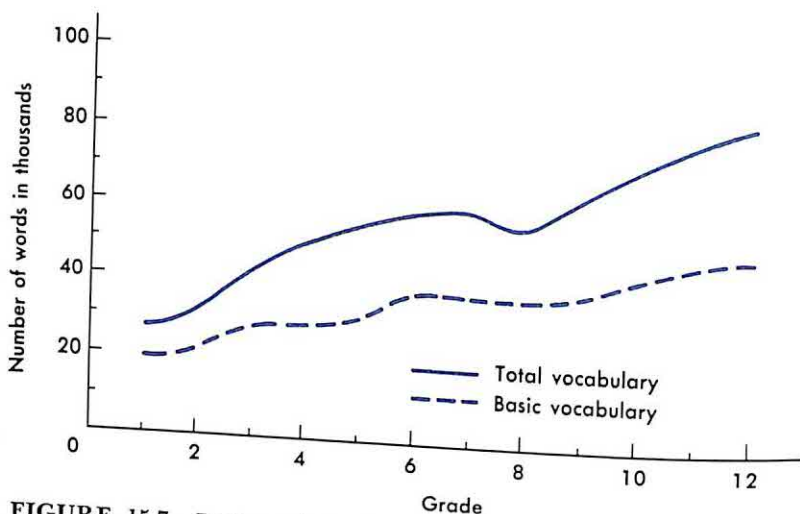


FIGURE 15-7. Basic and total vocabulary increases immensely over the elementary and high school years. Growth in the use of language is essential to adequate concept development. (Adapted from M. K. Smith. Measurement of the size of general English vocabulary through the elementary grades and high school. *Genet. Psychol. Monogr.*, 1941, 24. Pp. 327-328. With permission.)

Meaning in concept formation

Concepts may be described in terms of the *amount* of meaning the pupil possesses about an object or event. Such description is useful as a guide to the teacher in measuring pupil progress. You can see how breadth of meaning is measured in the test items selected from a study made by Russell.³

In mathematics: A minute is equal to (a) 60 seconds (b) 10 seconds (c) 60 hours (d) 6 hours (e) 60 days.

A man can walk a mile in about (a) 25 minutes (b) 50 minutes (c) 5 minutes (d) 1 minute (e) 15 minutes.

A minute is also equal to (a) 60 degrees (b) 6 degrees (c) 360 degrees (d) 600 degrees (e) 1/60th of a degree.

³ From D. H. Russell. The dimensions of children's meaning vocabularies in grades four through twelve. *University of California series in education*, No. 5. Berkeley: University of California Press, 1954. P. 383. With permission of author and publisher.

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In science: If the temperature falls very low we can expect
(a) rain (b) frost (c) wind (d) dust (e) storms.
The next morning we might find on the lake
(a) ducks (b) ice (c) fish (d) boats (e) steam.
To find how low the temperature falls we use a
(a) ruler (b) thermometer (c) tape measure (d)
timer (e) scale.

At the most basic level the pupil may have merely memorized the facts required with no specific understanding. He knows the names of the states, he can count, he has memorized his multiplication tables. But in each case all that he has done is to associate a name with a territory, or know that 3 precedes 4, or that 9×9 equals 81. Many facts need not be understood beyond the fact that they exist. There is no need to know why the letters of the alphabet are arranged in a particular order, or why the chemical symbol for iron is Fe rather than Ir. Learning at this level cannot be called concept formation, but is more accurately considered the formation of arbitrary associations (1).

Teachers must be cautioned against stopping at the "arbitrary association" point without trying to help pupils acquire meanings. For example, some meaning can be brought into learning the names of the states if they are grouped by regions, districts, or by periods of time during which they were settled or by other groupings. Pupils frequently memorize formulas and equations in chemistry as arbitrary associations. This is the difficult and temporary way, particularly if the pupil carries this procedure into organic chemistry. He may, for example, memorize the symbol for sulfuric acid as H_2SO_4 , without knowing anything about the combination of two atoms of hydrogen with the sulfate ion which, in turn, presupposes a knowledge of valences. However, with these latter understandings the pupil can manipulate symbols of elements to derive the many compound formulas without the necessity for memorizing each and every one. In addition, by knowing a few basic compounds he can reverse the process and determine the valence of elements that he may have forgotten.

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At the other extreme of the meaning dimension lies the pupil's ability to show the relationship among two or more concepts, for example, the ability to form generalizations or to understand them (1). Here the concepts themselves are heavily loaded with meaning, as in understanding the law of supply and demand, or in understanding that momentum is the result of the product of mass and velocity, or that two sides of an isosceles triangle are equal. Each of these *can* be memorized as arbitrary association, and often is. However, if they are not understood, they are no more than empty words which cause confusion and are soon forgotten. To understand such generalizations the pupil must first know the meanings of all the concepts involved. The more breadth of meaning that is associated with each concept the better will the generalization be understood. The isosceles triangle is only understood if the pupil knows that the triangle has 180 degrees and the two angles at the base are equal. The law of supply and demand cannot be understood without clear understandings of the meanings of supply and demand, the two important concepts in this generalization. Once such meanings are provided, then the statement itself must be applied and illustrated so that it gains meaning in its entirety. For the teacher this means that definitions and statements of generalizations alone do not suffice. More appropriately pupils should have *many* experiences around which the principle may be developed. Pupils should, *after these experiences*, be permitted to state the generalization verbally in their own words. Generalizations stated at the beginning of a new experience may provide a guide for observing but are less valuable for providing meaning. It is not until after the relevant experiences that the generalization serves the important function of summarizing and defining the several experiences.

Concepts are servants, not masters of men

The effective use of concepts permits man to understand the world he lives in. By the labels and associated meanings, he can sift out similarities and distinctions. As an aid in thinking and problem-solving, concepts provide him with a means of manipu-

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lating several objects or classes of experience in verbal experimentation. He can summarize and transmit, through symbols, his past experiences to the younger generation, thereby contributing to human progress.

In the formation of concepts there sometimes occurs a failure to make adequate discriminations. The individual, consequently, overgeneralizes. The child who is bitten by *a* dog may be frightened of *all* dogs irrespective of color, breed, or size. In other words, he predicts the outcome of a new dog's behavior on the basis of experience with one dog and fails to see the differences among them. Some times this process provides a protective device against hazards and dangers. In threatening situations, similarities may be more important in safeguarding one's person than the "irrelevant" differences. Later differentiation may occur through wider and more cautious experience.

Yet it is in this very process of overgeneralization that the tyranny of concepts may develop, making them the "masters" of men, for not only are the good and helpful aspects carried over to new situations but the bad and obstructive as well. There are many such incorrectly or incompletely labeled objects or events in the experience of most individuals. There is always the danger that inadequate generalizations may bring on emotional upsets, as is often the case with superstitions. Other labels such as those involved in prejudice, may be considered as final, or as "truths," and serve to inhibit further exploration by the individual. The label provides him with an excuse for *not* examining further. A concept which is only partially or incorrectly developed can be a serious deterrent to problem-solving and further learning.

The damaging features of incorrect labeling are dramatically illustrated in their effects on speech. All pre-school children⁴ repeat on the average 1 out of 4 syllables, words, phrases, or sentences. Ordinarily, these are of little concern to adults. On the other hand anxious parents, teachers, or other adults who appear

⁴ From the introduction to D. Davis. Speech patterns of young children. In R. G. Kuhlen and G. G. Thompson (Eds.), *Psychological studies of human development*. New York: Appleton-Century-Crofts, 1952. Pp. 231-232.

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to have high standards for speech behavior attempt to correct these supposed speech deficiencies. When these corrections fail the child may be labeled a "stutterer," and treated accordingly.

It is interesting to note that such well-meaning "diagnoses" are usually accompanied by a failure to understand definitions of normal and stuttering speech or the behavior of children at different stages of development. In any event, the label "stutterer" appears to be more than just another term to which the child is exposed but is a significant factor in the beginning of real stuttering. Wendell Johnson⁵ discusses this influence as follows:

In general, the studies so far made of the onset of stuttering have yielded substantial indications that the children who develop stuttering are essentially normal . . . there is always the mother or father, occasionally a teacher, or some other responsible adult listener, or even several such listeners, in the picture along with the child. At first, indeed, in most cases there appears to be serious questions whether the child is doing anything at all that can be properly judged as of clinical significance. What the parent, or other adult listener, is doing, however, appears to be of very considerable importance. The parent or other listener in such a case is found to be making and acting upon a judgment—a judgment to the effect that the child's speech is not as it should be, a judgment that becomes overt in postures, frowns, or even actual statements that the child interprets as disapproval. And so it is the listener's judgment rather than the youngster's speech that appears to have the kinds of consequences that need to be counteracted.

This illustration should make any adult who is responsible for the development of a child extremely wary of making diagnoses and "labeling" what he thinks he observes without sufficient understanding of the definitions of the terms used and of the expected behavior patterns at various ages. The haphazard use of such terms as "fatty," "neurotic," "stupid," "introvert," and the like, implying final judgment, should be viewed with considerable apprehension in the light of available research evidence.

The tyranny of overgeneralization can be avoided by the use of

⁵ From W. Johnson (Ed.) *Stuttering in children and adults*. Minneapolis: University of Minnesota Press, 1955. Pp. 10-11. With permission of author and publisher.

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the many principles leading to the development of accurate concepts. Children can be brought to understand their environment and to see distinctions. Appropriate terms can be used to identify these specific experiences. Through constant appraisal, pupils can be encouraged to explain the phenomena about them in logical terms and to avoid obvious contradictions. No pupil's concepts will have the entire wealth of all possible associations. The breadth of the pupil's specific understandings will depend upon his maturity and background of experiences. However, his concepts should be precise and accurate for a pupil at his level of development.

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Influencing Pupils' Attitudes, Appreciations, and Value Tendencies

TODAY WE ARE AWARE that boys and girls learn many things from their school experiences besides those encountered in the curricular and extracurricular offerings. For example, in a minor vein, they may learn, when in the depths of scholastic despair, to hate the visage of one of our more illustrious Presidents who stared down impassively from his picture on the wall. They may learn to love the light strains of the pixy dances played during the festivities of May Day, marking the nearness of summer vacation. They may learn to fear numbers in any form because of their invariant association with bewilderment and failure in arithmetic. They may learn to like all women with long, hooked noses because an especially kindly and sympathetic teacher was so afflicted.

Most of these learnings go on unbeknown to either teacher or pupils. These kinds of experiences frequently have an emotional overlay of pleasantness or unpleasantness. They provide the basis for many of our appreciations and attitudes which are often very strong, even though their sources in experience are usually uncommunicable.

There is also an emotional tone in the learning of many of our more rationalized or quasi-logical attitudes. When the flag and the big brass band come marching by we rise, bare our heads, and in these ways show our respect and love for country. At least this

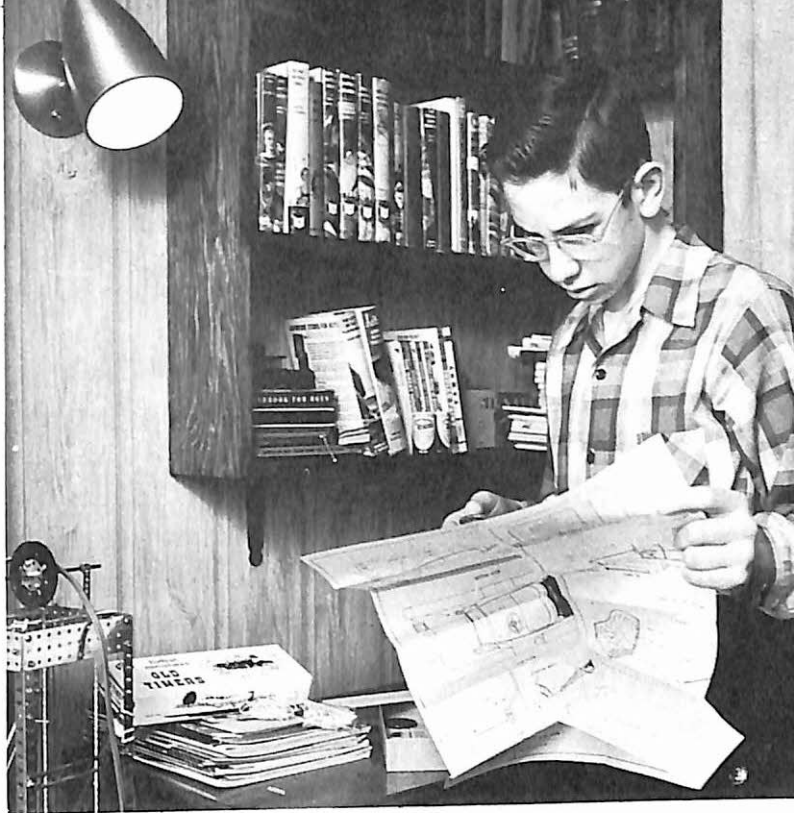


Many of our most important values were acquired through a long series of early experiences, each of which seemed relatively unimportant at the time. For example, few of us can remember the origins of our intense loyalty and reverence for our country. (Courtesy of Boy Scouts of America.)

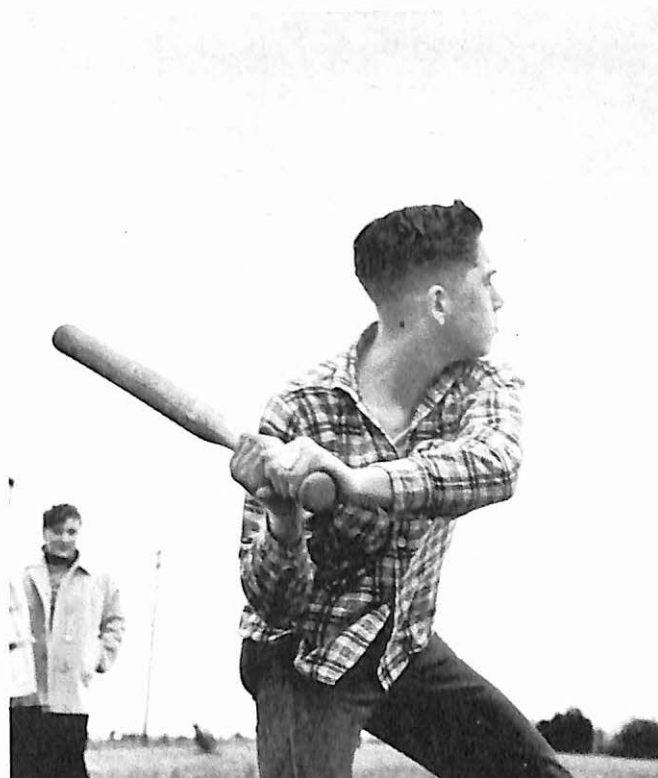
is what we say in an attempt to explain our behavior to somebody from another culture. All the time there is a thrill and excitement about our behavior that cannot be easily verbalized, a feeling of joyous pride that can be understood and shared only by others who have developed similar patriotic attitudes.

Following related principles, many of our negative or rejecting attitudes toward persons of other racial groupings or religious beliefs have strong emotional overtones of apprehension and fear. We respond to these people and everything associated with them by active avoidance or aggressive attack. In some long-forgotten ways they symbolize threat and danger. We typically rationalize and defend our negative regard by any kind of prejudiced statements that come readily to mind. Some person in our very early childhood may have said that these people are different from us and cannot be trusted. It must be true, for they are indeed different and we feel uneasy in their presence. We may put our prejudiced attitude into words in talking to others or we may transmit it just as effectively by our nonverbalized actions.

Some attitudes influence our behavior only when we are in the presence of the evoking stimuli. That is, they are aroused by conditions in our surroundings. For example, we may live for



It is readily apparent that these two adolescent youths have adopted different values related to recreation.



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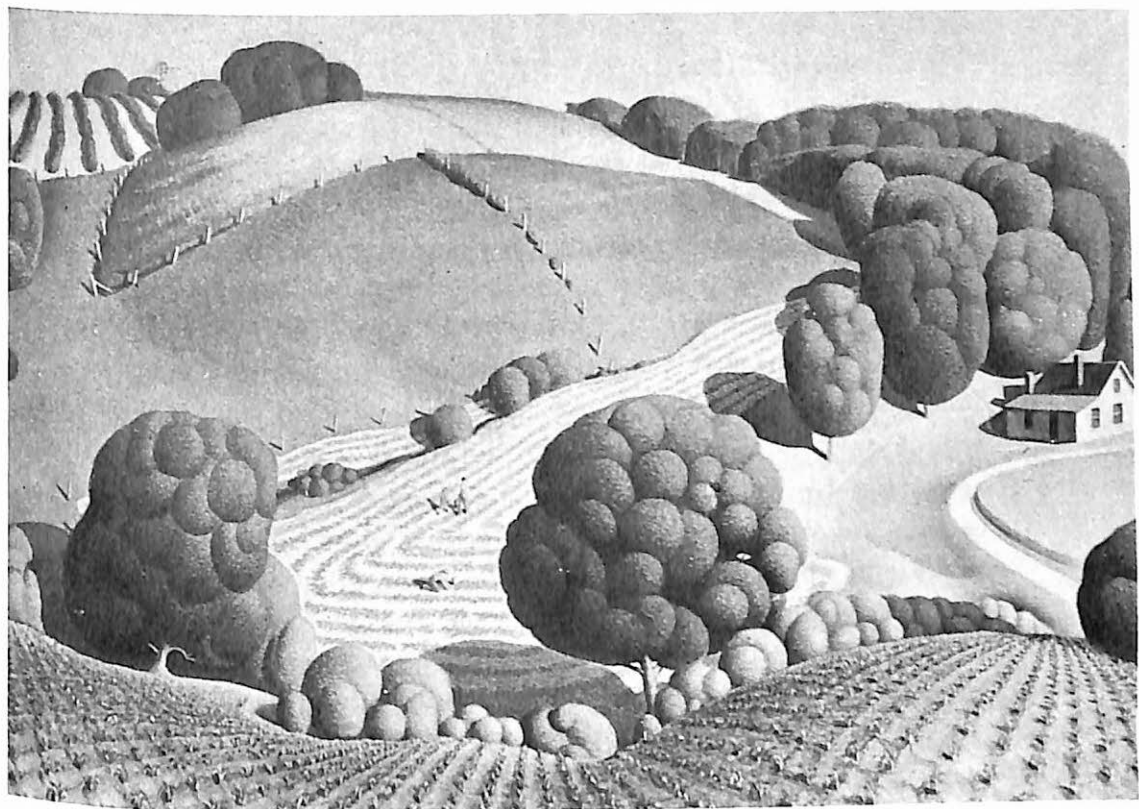
months without experiencing some of our favorable attitudes toward certain infrequent social occasions, like a picnic or party. Some acquaintance mentions one of them casually and we immediately start to expend energy to bring about a recurrence. "Yes, let's do have a get-together. They're lots of fun."

Other attitudes are more persistent and enduring. By some means they have become part and parcel of persisting needs and thereby function as long-term goals, shaping our daily routines in very direct and significant ways. These self-arousing and more or less sustained attitudes are often placed under the rubric of personal *values*. They do much to influence behavior and perpetuate cultural norms and styles of living. A pupil may have come to appreciate the value of scholarship, not from his own achievements but from others' aspirations and hopes for his scholarly future. He studies hard, is attentive, anxious to please his teacher, and becomes severely distressed when any situation threatens his hopes of achievement. Another pupil may have developed a strong value for athletic proficiency. He will neglect everything else in his school life in order to promote his status and skills in athletic events. Still another pupil may value participation in musical events. To him musical production is the most worthwhile activity and he may go to great lengths to convince others that musicians are the bulwark of our civilized culture.

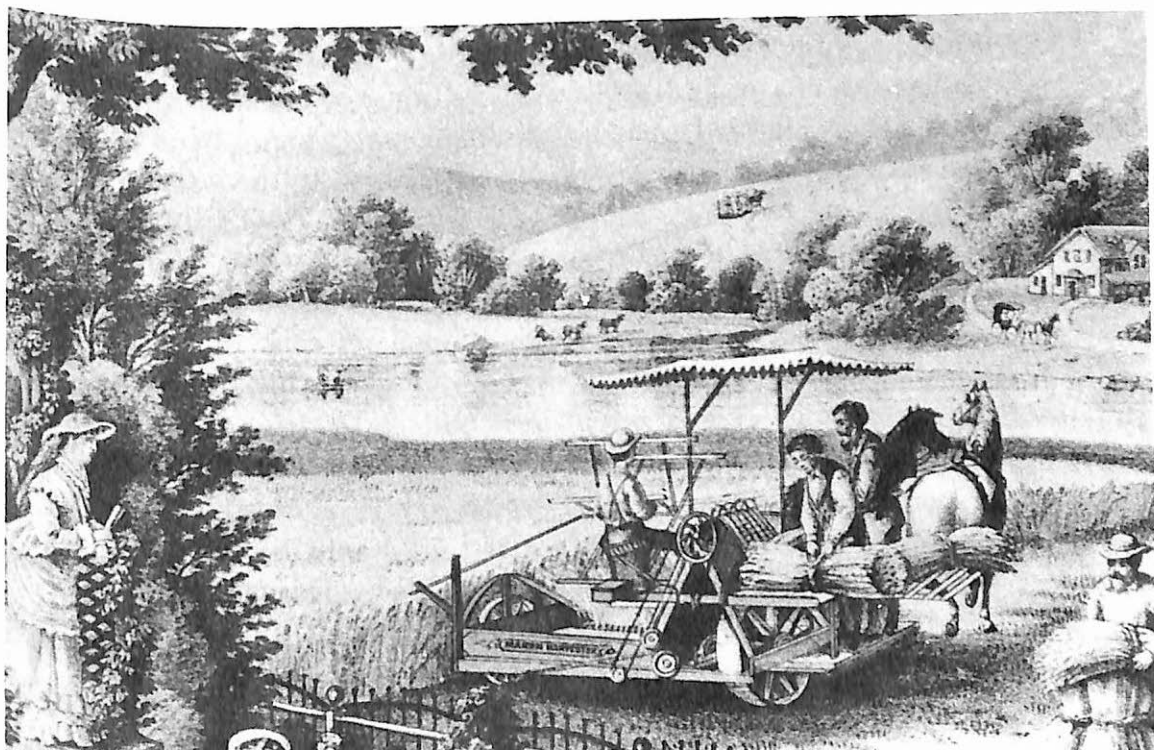
The acquisition of wholesome attitudes and of more generalized values are integral parts of a pupil's education. They can be influenced in culturally approved directions by the informed teacher. The dedicated teacher derives many of her richest satisfactions from the knowledge that her influence has extended beyond the sheer transmission of facts and skills. Parents often evaluate such a teacher by saying, "She is more than a good teacher. She is a good *influence* on her pupils."

How are appreciations, attitudes, and values acquired?

Appreciations, attitudes, and values are acquired and modified in the same ways and according to the same learning principles as other human behaviors. However, these attitudinal and "emotionalized" learnings (as contrasted with learning skills in arith-



Most of us would agree that the painting at the top is more esthetically pleasing than the "calendar art" at the bottom. But who can trace the thread of experience that lies behind this preference? (*Top*, Colten from Associated American Artists; *Bottom*, State Historical Society, Wisconsin.)



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metic or some of the other more formally presented tasks) are often based on low-level conditioning processes and unconscious imitations of others' behaviors. Studies of animal behavior demonstrate that they too can be taught to appreciate a generalized attribute of objects—such as working for one type of token and not for another (12). Most of us would agree that a gold star is more attractive and symbolizes a greater value than a red star. The origins of this attitude can be traced back to early school days. However, the conditioning of some of man's attitudes lies forever buried in the experiences of early childhood or the repressed memories of later life. For example, in the experiences of one individual: Why is he repelled by bright colors in men's clothing? Why does the smell of cigar smoke dredge up feelings of well being and affluence? Why does awakening in the middle of the night evoke feelings of quiet loneliness? Why is he so pleased with the paintings of Grant Wood?

It is sometimes impossible to determine what needs an individual pupil may be satisfying through clinging to a personally troublesome or socially unacceptable attitude or value. Even "deep" therapy like psychoanalysis may fail to unearth information that would support a reasonable inference. One pupil we know feels grief-stricken and comes to tears when she hears a certain strain of classical music. Another pupil cannot tolerate any act of kindness from others.

The difficulty of finding "causes" for some of our attitudes and values has prompted one distinguished psychologist to propose that such learnings may not be directly related to the satisfaction of human needs. O. H. Mowrer of the University of Illinois has recently theorized that the sheer association between a stimulus event and an emotional response (smooth muscle functioning) may be enough to produce a conditioned response (9). Perhaps many of our strongest attitudes and values are thus acquired in a coincidental way by more or less accidental pairing of stimulus signs and smooth muscle response. It is known that emotional responses are easily conditioned, often to maximum strength, in a single stimulus-response pairing. If this should be the basis of some of our emotionalized behavior tendencies learned during the

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preverbal period of early infancy, it would explain why we cannot verbalize the causes for some of our strongest aversions, attractions, prejudices, and biases. However, it seems likely that this theory is only a fragment of the full story of attitudinal learning.

It seems probable that many of our less emotionalized appreciations, attitudes, and values build up slowly according to a generally accepted reinforcement theory of learning. That is, stimulus events are associated with other stimulus-response associations which result in need reduction, thus producing a satisfying state of affairs. After many pairings the coincidental stimuli come to have need-satisfying properties and are sought after in their own right as desirable stimulus conditions. For example, the child who hears certain soothing music at bedtime when his mother is fondling him and preparing him for bed may come to enjoy the music (in the absence of the mother) for its relaxing effects. Or the pupil who is continually praised and approved by her teachers for her neat handwriting will prefer and strive toward this goal even when writing notes to herself that no one will ever see. And, of course, there is the same set of principles for negative attitudes and aversions. For example, the small son of a southern farmer hears his father damning the bankers of Wall Street for his financial difficulties. The little boy is disturbed by his father's emotional behavior, which is very similar to that displayed when he punishes his son. The immature boy perceives the verbal stimulus as "bankers in general" and is fearful of his father's strong emotion. This occurs on many occasions. The son grown to manhood cannot understand his distrust and aggressive feelings toward bank personnel, stock brokers, and the like. His negative attitudes appear somehow justified and yet unreasonable. They handicap him in his financial transactions and in his investment planning.

Boys and girls also appear to have a strong tendency to adopt the attitudes and values of a preferred adult. The boy tries to be like his father in every respect, and the girl like her mother. Later the father's and mother's influences are extended to imitation and copying of the attitudes and values of other adults, the "parent surrogates." Psychoanalysts speak of "identification" with others

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and the "introjection" or "interiorization" of the other's attitudes and value systems—sometimes without conscious awareness or any discrimination of the others' desirable as contrasted with their undesirable characteristics. Thus we may find pupils imitating some of our most embarrassing mannerisms as well as our more estimable behavior patterns.



FIGURE 16-1. Playing school. A teacher of these boys and girls might get a good picture of her attitudes and values if she could have the opportunity of being an unseen observer. Play acting or psychodrama is a good way to examine one's hierarchy of values.

Each of these explanatory approaches (conditioning by sheer association, conditioning with need reinforcement, and identification-introjection mechanisms) seems plausible. They have many components in common. In this book we are not interested in their relative theoretical merits, but have called attention to them as illustrations of current thinking in psychology. On one point there seems to be general agreement. Many of our attitudes and values develop in strength from socially obscure origins.

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Attitudes and values motivate other patterns of behavior

It is the motivating and guiding effects of attitudes and values that make them so important in human affairs. They instigate and then sustain complex behaviors over long periods of time. They guide and cast an emotional coloring over many of our everyday routines.

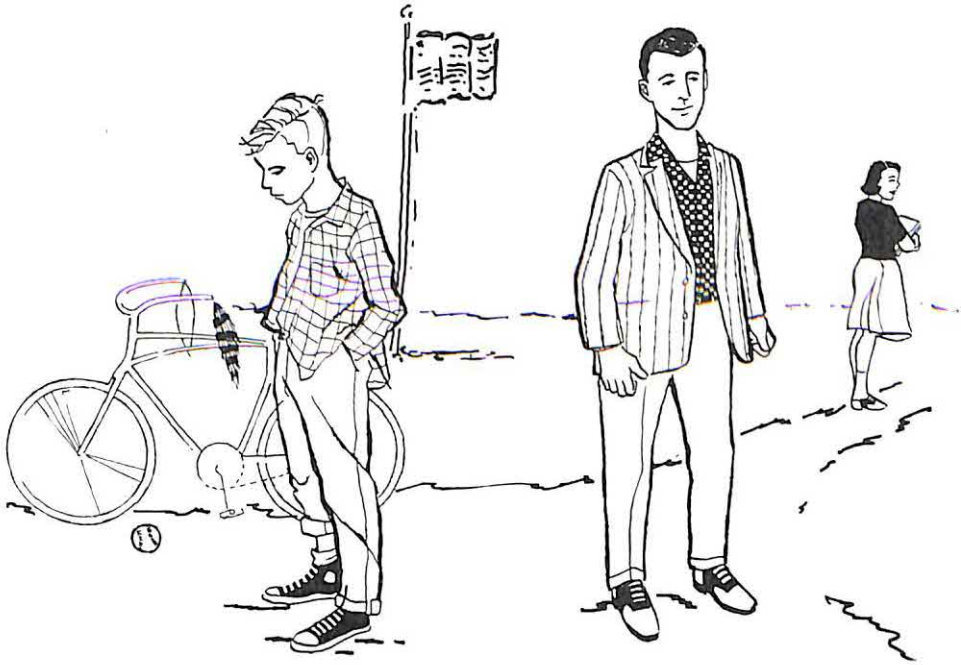


FIGURE 16-2. It is often difficult for preadolescent boys to remember the niceties of personal grooming, because these chores are not related to any significant values. With the advent of sex-social needs, the adolescent boy may seem overly concerned with self-grooming activities

Negative attitudes have an adverse effect on motivation in that they keep the individual away from certain goal-striving situations. The pupil who has acquired negative attitudes toward reading because of his early failures usually does everything possible to avoid the reading situation. Clinicians and teachers of remedial reading report that the first task is one of eliminating the retarded reader's negative attitudes toward printed materials. He cannot learn to read until he can be helped to "release the

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brakes" of his negative evaluations of reading as a personally unsuccessful activity.

The *absence* of a favorable attitude or value leaves the pupil in a state of behavioral inertia. We say that he is not interested or that he is not motivated to learn. The teaching of handwriting to boys offers an excellent illustration of this condition. It is frequently difficult to encourage them to improve the aesthetic quality of their writing. They typically place a low value on neatness and are satisfied merely with writing legibly. Or consider the mother's plight who tries vainly to get her preadolescent boy to comb his hair every morning. With his entrance into adolescence he seems transformed. Now he combs his hair *ad nauseam*!

The motivating effects of a positive value are well known. History is replete with instances of persons undergoing extreme hardships and even death in pursuing positively valued goals. It should be noted that the behavioral consequences of pupils' positive values are not always pleasing to the teacher, because she may possess different values. Nevertheless, she will do well to take cognizance of the potent effects of her pupils' positive values. They are expressions of enduring and powerful trends toward behavior.

Attitudes and values influence perceptions

Pupils' perceptions of the external world are highly influenced by their attitudes and values. They may consistently perceive objects as being considerably different from what they really are. For example, in one experiment it was found that economically less privileged children remembered coins as larger than did a more privileged group of children (3). Another experimenter found that children overestimated the adjudged sizes of favorite foods as contrasted with less preferred ones.

Pupils also perceive the presence of objects and events which do not exist in fact. This has been interestingly demonstrated in the psychology of rumor (1). The sometimes negative attitudes toward the American Negro may influence perceptions, as shown in Figure 16-3. The pupil who has apprehensive attitudes toward the school and his teacher may perceive many of the teacher's

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routine behaviors as personally threatening and damaging to his self-esteem. Almost everything that the teacher says is twisted into further evidence that "The teacher doesn't like me."



FIGURE 16-3. When the story of this picture is told "round robin" from one person to the next, it frequently changes in content so that the razor is in the hand of the Negro who is interpreted as an aggressor. This illustrates the influence of attitudes on perceptual and memory processes. (From Gordon W. Allport. *Psychology of rumor*. Henry Holt & Co., Inc., 1947. With permission.)

Attitudes and values also make the pupil sensitive to what may superficially seem to be very weak stimuli. Anything that is related favorably to his value system is perceived, even though the triggering situation is fleeting or otherwise obscure. The pupil may be completely oblivious to contrary or threatening circumstances. That is, his values have made him unusually sensitive to barely perceivable conditions in the external world, provided they are in accord with his own organization (2, 7). Examples of this human tendency abound in our everyday experiences. The pupil with a highly developed value system related to academic achievement sees the tiniest evidences of progress and is perceptually sensitive to the minor ways in which he can make greater gains. Stimulating

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conditions that threaten his value system are handled in two ways: he is unusually alert to threats that he feels he can handle, and very insensitive to those for which he has no ready defense.

CONDITIONS THAT FAVOR CHANGES IN ATTITUDES AND VALUE TENDENCIES

The teacher can do many things to influence the attitudes and values of her pupils. Probably her best approach is the indirect one of exhibiting sympathy and understanding toward her pupils. If she is successful in projecting a genuine concern for each pupil's happiness and welfare, she will exert a strong influence on his or her attitudes and values.

Most pupils will have adopted their strongest identifications outside the classroom, with parents or other adults. The teacher will not be able to establish a close relationship with every pupil. Boys sometimes find it difficult to identify with women teachers. There are values and attitudes to be encouraged which it is impossible to find an outlet for through one's everyday behavior within the classroom. These difficulties make it desirable to consider more formal methods of influencing the attitudes and values of pupils.

Conditioning by frequent association

When we reflect about the sources of our own positive attitudes and values it is easy to see that many of them were acquired through casual association with pleasant experiences. The poems and stories that were read to us and the carols that were sung at Christmas time still arouse pleasant feelings of warmth and well-being. They represent positive values inasmuch as we like to repeat them each year and feel deprived if conditions interfere with a full measure of enjoyment. If, perchance, circumstances threaten to prevent such pleasurable activities, we are willing to expend a lot of energy to preserve what we feel are our inalienable privileges. It takes something like this to make us recognize how strong are our positive values. They are felt to be the most desirable way of living. We explain them as the products of conditioning by frequent association with pleasurable early

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experiences, family love with its special intimacies, feasting, reverence, and so on.

The school offers many opportunities for transmitting similar positive values. For many boys and girls the school is the only setting in which they are exposed to the culture's best literature, art, and music. If these experiences can be made a pleasurable part of the school's curricular and extracurricular offerings, there is a good chance that pupils will adopt them as positive values. If on the other hand they are associated with apprehension and threats of failure, we can be almost certain they will represent negative values—activities to be avoided.



FIGURE 16-4. Negative values are acquired on the basis of pain, threats of failure, and the negative evaluations of one's associates. They represent activities to be avoided. (Courtesy of Stan Fine. Reprinted from *The American Magazine*.)

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The influences of music, art, and literature are often sadly curtailed by the way in which they are presented. The pupil who knows that he will be tested and graded solely on the names of great artists and their productions is not in a favorable state for acquiring positive attitudes and values. The warmth and humanity of Lincoln's address at Gettysburg is forever lost to the unfortunate pupil whose first exposure to it was to be forced to memorize it "word for word" in an English assignment. The emotional appeal of our best poetry can be destroyed by an emphasis on intellectual analysis and memorization. Under these conditions the pupil may be able to "recite" and interpret the meaning of "Paul Revere's Ride" yet feel none of the excitement or patriotic fervor inherent in this stirring chronicle of our early history. How unlike the days of poetry's beginning when the minstrel sat at the fireside and told his stories in song after the evening meal. One can almost see the excitement and enjoyment of the boys and girls in this setting.



FIGURE 16-5. In an earlier day poetry was read or sung, in the pleasant surroundings of home and fireside by wandering minstrels. Why has the popularity of poetic expression suffered such a serious decline?

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It is not our purpose to attempt a comprehensive listing of the values that should be transmitted through our schools or the best teaching methods for reaching desired goals. However, it seems probable that some teachers with the best of intentions may be defeating their own purposes, because they are not aware of the psychological principles by which positive attitudes and values are acquired.¹

The influence of prestige figures

Perhaps the best illustrations of influencing attitudes and values through prestige labeling and association can be drawn from modern advertising. It is a widely used and effective method for selling everything from dental creams to Cadillacs. The usual technique is to have some well-known public figure endorse the product or merely be photographed in its presence. The inference is made that the potential consumer will want to identify herself in every way with such an admirable figure—even down to the superficial detail that she uses Beauty soap. This inference has a solid foundation in fact, as is shown by the following research study.

Children of preschool age were told an interesting story about an appealing hero who (among other things) was very fond of one type of food but violently disliked another kind (5). For several days the children had opportunities to try the two foods and tell which one they liked best. The story had been so written that the hero's favorite food was initially least liked by the children. After hearing the story the children changed their preference to the hero's best-liked food. Although they tended with time to slide back toward their initial ranking of the foods, they still showed a positive influence on the twelfth day after listening to the story.

Everyday observation also attests to the sales appeal of a hero's endorsement of some product. When this prestige association is combined with an invitation to send in a box top and become a member of the hero's inner circle, the influence is even more

¹ The principles of influencing attitudes and values by positive and negative conditions of reinforcement are discussed in a most interesting fashion by B. F. Skinner of Harvard University in his books: *Science and human behavior*, New York: Macmillan, 1953, and *Walden two*, New York: Macmillan, 1948.

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enhanced. Nor is such prestige influence restricted to small children. Older boys and girls adopt the attitudes and values of movie stars and other celebrities. Even adults are by no means immune from prestige suggestion. In the present era of great technological progress the unsupported statements "Science has shown . . ." or "Four out of five doctors recommend . . ." will send the majority of adults scurrying to the supermarket.

As a matter of fact, we are so heavily influenced in our attitudes and values by prestige factors that we consider it necessary to exercise some degree of social control. Review and censure boards monitor our books, movies, and radio and television programs to protect us from unscrupulous promoters. The government appoints special committees to examine the products that "Science has proved" will enrich our way of life.

How fares education in this struggle to influence our youth

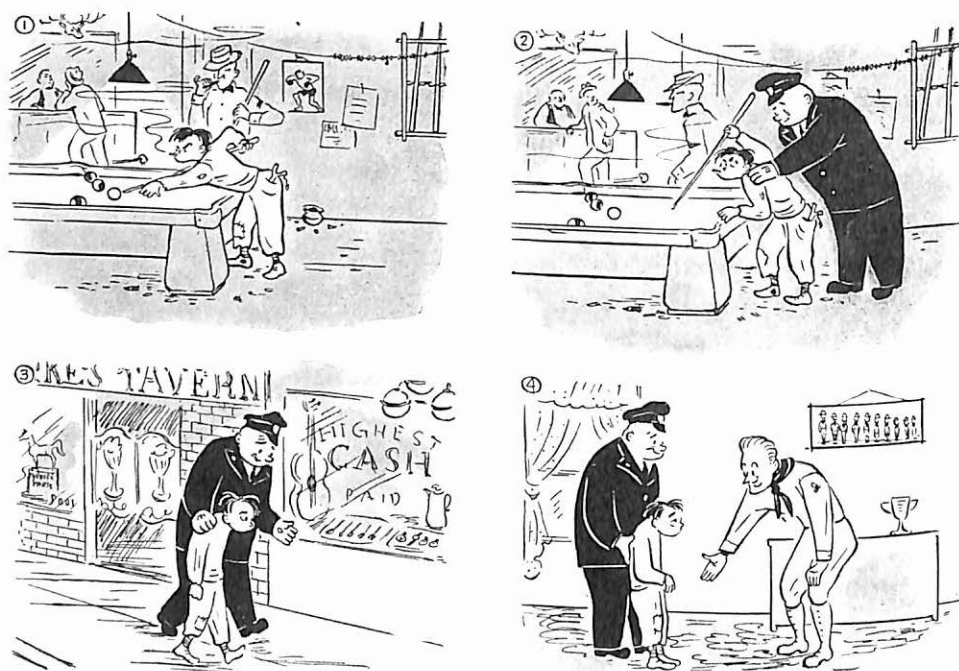


FIGURE 16-6. It is not always possible to predict the effects of experience upon attitudes and values. The best laid plans often go awry.

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(Drawing by R. MacDonald, © 1944, The New Yorker Magazine, Inc.)

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toward the acceptance of civilization's most cherished attitudes and values? There appears to be room for considerable improvement. In the first place, teachers appear reluctant to accept a fair share of the responsibility for pupils' developing values. They decry the influence of commercial interests but too frequently offer no alternative attractions. In the second place, they too often passively adopt antiquated methods and materials handed down from a previous generation of teachers, or vaguely remembered approaches drawn from their own childhood.

That this is the case is well illustrated in a recent analysis of third-grade textbooks in reading (4). Over 900 stories selected from thirty readers were analyzed according to type of story, central character, behavior shown, consequences of the behavior, and so on. The analysis showed an extreme emphasis on work and skills as means of reaching one's goals. Success is the keynote, for of course the hero almost always succeeds. Girls and women are characterized as kind, timid, inactive, and lacking in ambition. We consider the optimism of always succeeding through hard work as an unrealistic picture of life for the average third-grade pupil who sometimes works very hard without success. The picture of womanhood is neither realistic nor attractive. It is small wonder that boys and girls are little influenced by such a selection of stories. Few pupils can identify with a character who is fictionalized to success through *hard work*. They like their *fiction* in pure form where the hero always succeeds through the extraordinary gifts of Superman. Heroes and heroines with whom they can identify must be susceptible to the same winds of misfortune as themselves. And they must seem as real as the celebrities of today in order for their qualities to compete successfully with the innocuous attitudes and values of the popular movie star or singing idol (as fabricated by their press agents). The pedagogical task is a difficult one, but the psychological facts are clear. New teaching materials and methods of instruction are demanded if the school is to become a leader in the transmission of values via prestige figures. It is unrealistic to believe that the virtues of Washington will be preferred to the glamorous characteristics of a contemporary idol.

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Influencing values by group discussion and decision

Attitudes and values that have become well established are difficult to change. In the modern era of rapid communication through radio, television, daily newspapers, magazines, and elaborate billboards the individual is bombarded from all sides with information designed to influence his attitudes and style of living. In response to these pervasive tools of persuasion the child acquires an attitude of skepticism and disbelief. He may have sent in a few box tops and found that the attractively described gifts were really pretty shoddy merchandise. He comes to distrust the motives of others who try to influence his behavior. This callous regard generalizes to all walks of life. It makes the teacher's task much more difficult, but on the positive side it permits the pupil some degree of freedom in establishing his own attitudes and values.

The teacher can no longer feel confident that her words of advice will be accepted at face value. The pupils may wonder "What's she after?" "What's she trying to sell?" New techniques are required which permit the individual pupil the freedom of personal decision which he demands. The group-discussion approach seems especially tailored for classroom use. Its effectiveness is illustrated in the following experiment with adults.

This study was conducted under the supervision of the late Kurt Lewin, who initiated the "group dynamics" movement in social psychology (8). The objective of this study was to encourage housewives to increase their use of sweetbreads, beef hearts, and kidneys during World War II when the usually consumed meats were in short supply. Two approaches to the task were employed with several groups of women ranging in size from 13 to 17 members. Only 45 minutes of time were available with any one group. In three of the groups the women were given an attractive lecture which appealed to their desire to help the war effort, emphasized the superior nutritional value of such meats, and gave detailed directions for preparing them in attractive ways. Mimeographed recipes were distributed. For the other three groups a leader skilled in group work presented the problem in terms of nutrition and the war effort. After a few minutes he initiated a group dis-



Group discussion is an effective way to modify attitudes and values when supplemented with individual decisions about future behavior.
(Portland, Ore., Public Schools.)

cussion. The advantages and disadvantages were discussed freely. Then the nutrition expert offered the same recipes as given to the lecture groups. At the end of the discussion session the women were asked to raise their hands if they were willing to try one of the meats during the next week. A follow-up inquiry revealed that 32 per cent of the women in the discussion groups served one of the meats the following week as contrasted with only 3 per cent of the lecture groups.

The effectiveness of the group discussion and decision approach has been demonstrated within many other settings like factories, co-operative dining halls, and mothers' groups. It has been used successfully in one of its variant forms within the classroom to promote interpersonal understanding and tolerance. It is a powerful approach which is especially amenable to classroom use. When handled with reasonable finesse it also provides valuable opportunities for pupils to explore their own attitude and value systems against the backdrop of the group. This experience is a good mental hygiene measure in itself.



Posters and models constructed by the pupils themselves are effective ways of influencing attitudes and values. (Battle Creek, Mich., Public Schools.)

Mass media influences on attitudes and values

Mass media are available to all and are demonstrably effective. They include radio, television, movies, books, newspapers, magazines, pamphlets, billboards, lectures, and any conceivable means through which communication with groups of people becomes possible. There can be little doubt that they have a substantial influence on our attitudes, values, and daily behavior. Carl Hovland of Yale University has ably summarized the array of research studies that demonstrate the effects of mass media on our attitudes and values (6).

Teachers have many of these approaches available for their use. The library, which is the heart of the academic side of our educational programs, is an invaluable aid. The teacher can through personal suggestion and group discussion have a significant influence on the types of books and magazines that her pupils read. Many of our schools have banded together to support radio and television programs that are educational in pur-

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pose. And almost every school has film projectors and contractual arrangements with a film library for renting films on almost any topic.

Although the mass media are valuable resources for presenting information and teaching skills, they may be less influential in molding attitudes and encouraging the development of values. Generally they are less dramatic and exciting than the media sponsored by advertising interests. This is the reason that we have emphasized the approaches that are uniquely available to the teacher. She can interact with her pupils under social conditions shared by very few other individuals. This is her principal advantage. If she is resourceful and understanding, she can do much to encourage her pupils toward an integrated and personally satisfying philosophy of living that will insure a maximum of freedom for the individual without encroaching on the rights and privileges of others. It is just as important for the teacher to help pupils acquire a stable hierarchy of socially acceptable values as to give instruction in the three R's. This can probably be best accomplished through group discussions in which pupils are unobtrusively guided by the teacher toward individual decisions consistent with their backgrounds and general styles of living.

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CHAPTER 17

Facilitating Motor Skills

MAN'S SUCCESS in gaining control over his natural and social environment has, in a large measure, been dependent upon his ability to acquire special motor skills. His success in devising intricate and complex tools is the product not only of superior intellectual powers but also of manipulatory skills. Some scientists have pointed out that one of man's advantages over other animals is his thumb-finger-opposition which has permitted the development of the tools so important to modern civilization.

Motor skills give us primary satisfaction. Pleasure from motor activity is probably related to the alternate flexion and relaxation of numerous muscles. The obvious enjoyment of the young child, just learning to walk, is similar to the pleasure of skating for the older child. The work of some psychologists (8, 13, 19) support the inference that the satisfactions derived from play and activity probably are innate.

Every classroom subject as well as every extracurricular activity includes some motor behaviors. Motor skills are necessary for success in both occupational and avocational pursuits. Pupils receive approbation for many motor accomplishments like social dancing, athletic skills, musical performances, and so on.

The skilled person who can dance, skate, sing, or swim has a social advantage over the person who lacks these skills. There is



Man's large thumb and its ability to move in opposition to the hand as a whole, as well as to each finger separately, makes his hand superior to those of other animals. (From G. Revesz, *Psychology and the art of the blind*. Courtesy of Longmans, Green & Co., London.)

convincing research evidence that motor skills and social skills are interrelated among ninth-grade pupils (2). Pupils who are most frequently chosen by others for such activities as attending movies, going for a walk, and playing games are the most proficient in dancing, swimming, tennis, skating, and singing. Social skills are a definite advantage in promoting acceptability and popularity.



FIGURE 17-1. Effect on child who has not learned the skill of dancing.

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Pupils who are socially unacceptable frequently improve their social status when they develop motor skills in important peer activities. The motor skills which often contribute significantly to improved social adjustment are learned. They can be learned within broad limits by any pupil who is adequately motivated. The teacher is in a good position to observe specific potentialities in various pupils and to encourage the development of appropriate motor skills. She can show Johnny, who admires a certain group of boys, the advantage of becoming a better skier so that he may be able to join them on weekend trips to a ski resort. She can point out to Sally that the girls with whom she would like to be friendly spend much time at the swimming pool. By learning to swim beyond the bare ability to keep afloat, Sally may be able to enjoy their company at the swimming pool.

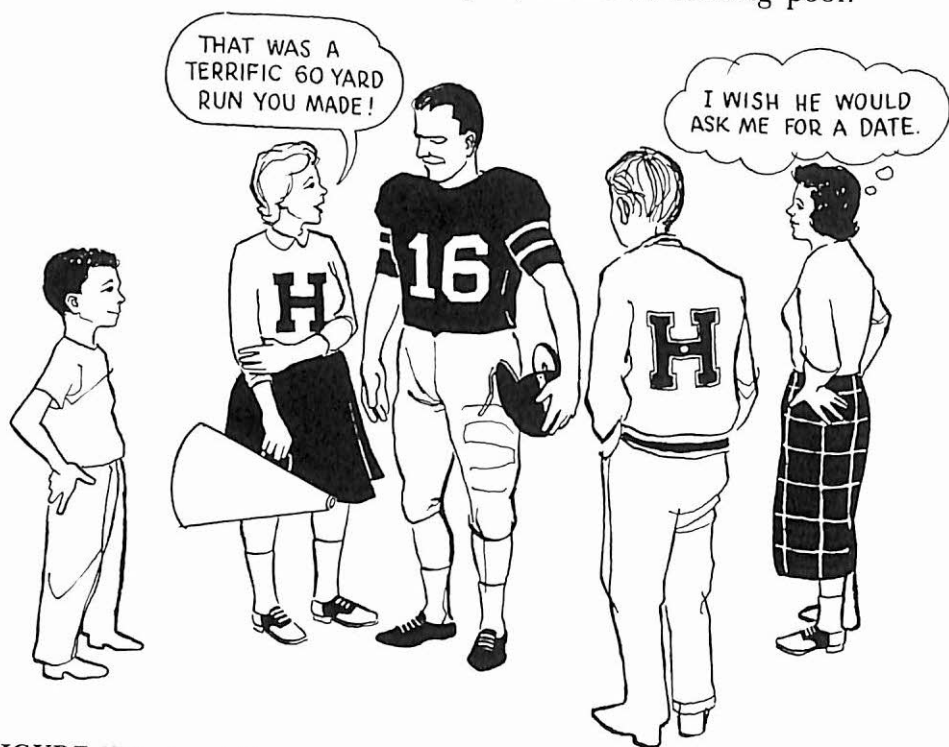


FIGURE 17-2. Acquisition of social status by prowess in athletics.

The nature of perceptual-motor skills and of skilled performance

Although motor patterns of response seem to be a relatively simple kind of learning, one should not be misled by this appear-

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ance of simplicity. Even the most elementary of the motor patterns, such as that of the infant reaching out and grasping a bottle, is the product of many neuromuscular responses (6, 7). In the early stages of learning *general* patterns of response are dominant. The efforts of the pupil may appear simple, crude, clumsy, and mechanical. However, these first attempts are the forerunners for learning *how* to perform. As the individual seizes opportunities for practice, his responses become more refined. Incorrect movements are eliminated. Correct movements become co-ordinated into a smooth pattern of responses. Precision and the co-ordination of responses, plus speed, are characteristics of motor skills. A motor pattern becomes a skill when it has some qualitative characteristics such as rhythm, speed, effortlessness, and grace.

Motor skills have style, form, internal organization, and co-ordination with objects in the external environment. They become characterized as integrated patterns so effortless that they resemble stereotyped behavior patterns.

Each person has his own characteristic way of performing a skilled action, whether it is handwriting, playing golf, sewing, or walking. Although there are "good" and "bad" forms for a motor activity there is not just *one* best form. The human body acts within certain limits of force, range, and speed. Motor skills are largely purposive. Skills are defined in terms of success in reaching specific goals. Efficiency has no meaning except in relation to a goal. It implies energy release, timing, movement through space, and return to a state of equilibrium, all nicely adjusted to the requirements of the situation and the capabilities of the performer.

In an unfamiliar situation requiring motor skill a pupil may act in a number of different ways. In learning to play a composition on the piano he may first produce sounds that have little resemblance to the composition. For, in general, mass movements precede the refined specific ones. He may then attempt a type of problem-solving with respect to the different motor operations needed. That is, he may consider fingering, tempo, and intensity. He has to *think* of each element. After appropriate practice the process becomes automatic. All the complex elements are integrated so that the composition is played with few errors and apparently without effort.

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Individual differences in motor capacities

Pupils are extremely variable in their ability to learn motor skills. This is due, not only to the different rates and ages at which they mature physically, but to their inherited characteristics. In fact, many aspects of motor response are relatively uneducable. Skills required of a good boxer, like reaction time and co-ordination, are good examples. All pupils can be taught some of the rudiments of boxing, but there are definite differences in their potentialities for acquiring this skill.

Under conditions where children are highly motivated they can acquire considerable skill in spite of limited physical endowment. With more than usual perseverance and determination, pupils with below average co-ordination can learn a skill such as golf or tennis at an acceptable level.

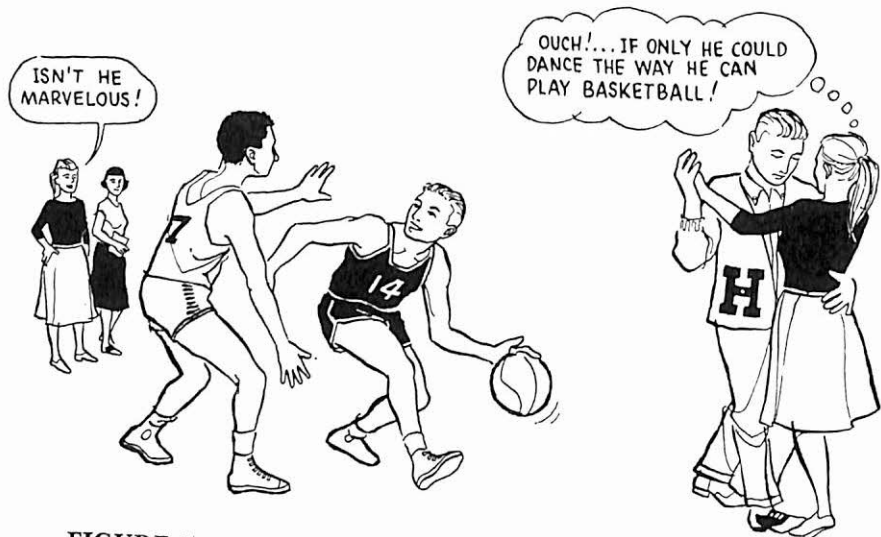


FIGURE 17-3. Note that the boy who is very graceful on the basketball court may be a very awkward dancer.

A pupil may be good in tennis, poor in baseball, and excellent in typing. It is important that the teacher realize the high degree of specificity in motor skills. Research evidence shows little or no relationship between gross and fine motor speed skills. Teachers may think that because boys excel girls in sports they should excel in penmanship. This is not the case. Although there appears to be

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a slight positive relationship between abilities in the gross motor skills (9), these activities also tend to be highly specialized. A person may do well in one motor activity and poorly in another.

There seems to be little basis for discriminating between males and females with respect to their potentialities for manipulative or skilled manual operations. Even where sex differences favoring one sex or the other have appeared, the differences among individuals of the same sex are so great that a substantial portion of the other sex exceeds the average of the first. During World War II the effectiveness of women on "men's jobs" demonstrated their ability. On the other hand there are clear sex differences in strength and athletic competencies (4, 9) with boys being definitely superior. In fact, "sex differences in motor performance are so great in adolescence that joint participation in physical activities will, except in rare cases, meet only a social need. Thus the type of activity selected for mixed groups should be such that maximum opportunity is afforded for social experience" (4).



FIGURE 17.4. Athletic activities showing substantial sex differences among pupils.

It is likely that a pupil will be reasonably effective in an activity involving certain motor abilities and poor in one

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requiring others. The skillful teacher should not try to stress the acquisition of motor skills for which a pupil has little potential, at the expense of others where success through training is more probable. The teacher should always keep in mind that a given pupil may have potential for one type of motor skill and very little for another. Rarely does nature produce a person like Babe Didrikson or Jim Thorpe who can perform well in almost any motor activity.

The correlates of motor skill

Although the relationship between "intelligence" and sensorimotor ability is moderately high in infancy (1), it decreases with advancing age. In late childhood there is still a positive relationship but it is extremely low. Mentally retarded children as a group have been shown to be somewhat retarded in motor development (14, 16), while the intellectually gifted tend to be generally superior in motor activities (17). However, in the overall population the relationship between factors of intelligence and motor achievement are so low as to be useless for prediction. Perhaps the best statement about this relationship is one made by Edward L. Thorndike in a much more general context that "In general, desirable human characteristics are slightly, but positively, correlated," that is, good qualities tend to go together. This point is worth making since there is a common misconception that a negative relationship exists. The superior motor skills of dull boys often observed by the teacher can usually be explained by the fact that they are frequently one or more years older than their classmates.

What has just been said about the relationship between intelligence and motor skills applies in general to the relationship between motor skills and academic achievement. Although many individual exceptions occur and although most teachers can recall football players who did poorly in their studies, you should keep in mind that there are many other factors involved. For example, the authors have seen high-school football players after practice sit down to study in the evening and fall asleep over their books almost immediately from sheer fatigue.

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The relationship between personality and motor skills is largely unknown, since little scientific investigation has been attempted. However, most psychologists feel "that children do express their personality tendencies in their motor behavior. Shyness, timidity, insecurity, dependency, aggressiveness, and many other personality variables appear to be reflected in the motor activities of children; . . ." (18).

Since motor achievement involves many aspects of physical growth it would seem reasonable to expect some relationship between motor achievement and body build. There is evidence which shows a relationship between body build and success in various kinds of athletics (3). Football players tend to have a solid build with dense muscle structure, while track athletes run to slim body build but with well-developed musculature. Swimmers are more frequently muscular with considerable fatty tissue.

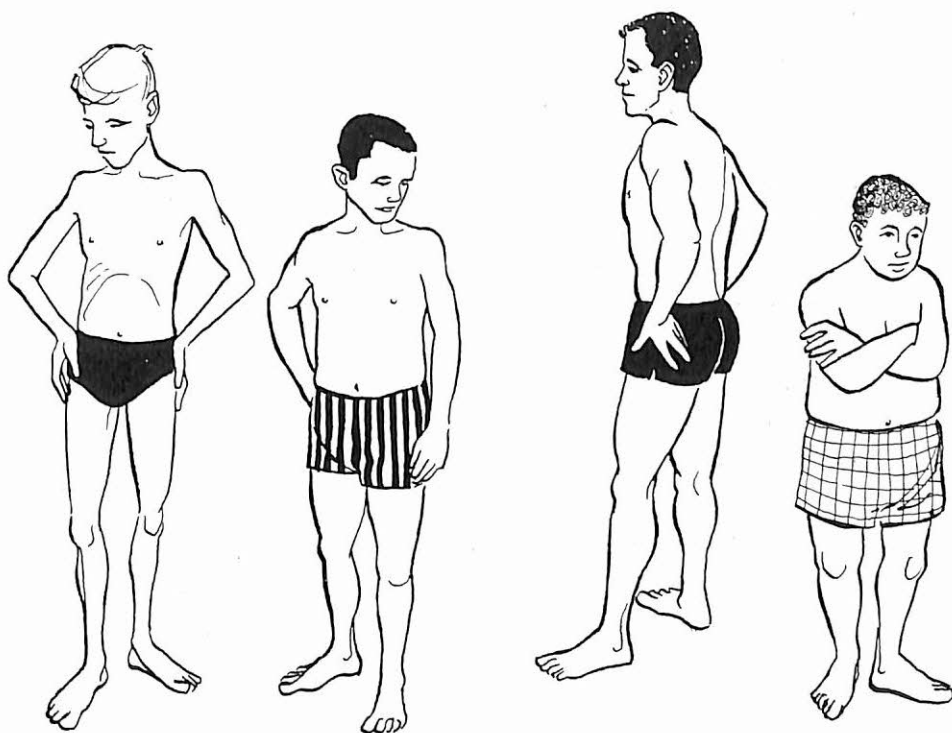


FIGURE 17.5. Among these boys of the same age there are many different body types, ranging from those which are tall and lean to those which are short and fat.

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However, there are great differences among even champion athletes in a specialized sport. Dash men in track and linemen in football show tremendous variation in both size and proportions of body build. It would seem that an appropriate body type is an important but not necessarily the only condition for success in a given athletic skill.

Motor skills can be improved

In spite of the fact that perfection of motor skills depends upon inherited physical characteristics, the natural endowments of an individual gain their full development through a well-directed training program. What is done with the inherited capacities is as important as the innate qualities themselves. Some of the world's greatest accomplishments have been achieved by persons seriously deficient in physical endowments. Helen Keller, deaf, dumb, and blind from early infancy, made important contributions to the education of the handicapped. Charles P. Steinmetz, electrical genius in spite of a crippling deformity, obtained over 200 patents. Robert Louis Stevenson made many of his great literary contributions while suffering from extremely poor health. Ludwig von Beethoven completed many of his greatest compositions while unable to hear the music he wrote. In some instances, an initial physical handicap has been overcome to such an extent that previous weakness becomes strength.

The case of Demosthenes, the ancient Greek orator, is one such illustration. His first attempts to speak in public were greeted with derision. He had weak lungs, a shrill voice and was unable to pronounce the letter "r." He succeeded in overcoming these obstacles by taking the advice of the actor, Satyrus, who advised him to put pebbles in his mouth and then orate in the roughest and most difficult physical surroundings. To strengthen his voice further he went to the seashore and spoke aloud amid the noise of the wind and waves; he shut himself up for months in a subterranean room and endeavored to acquire dignity of manner by practicing before a mirror; that he would not be tempted to go out and leave his practicing, he had his head half-shaven. These

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heroic methods resulted in his becoming one of the greatest orators of all times.

There are numerous modern examples. Tenley Albright started to skate when she was nine years old, but at eleven suffered an attack of poliomyelitis. Her doctor permitted her to resume skating in order to strengthen her weak muscles. After a considerable practice period she entered the Eastern United States Junior Ladies figure skating competition and won the title. When Glenn Cunningham was in his early teens a stove exploded, injuring him and several members of his family. In fact one of his legs was so badly burned that he was hospitalized for a long time and was told that he would never be able to walk again. He recovered slowly and took up running to try to strengthen the injured leg. In college he became a miler and in the late 1930's broke the world's record for the mile.

Helping pupils learn motor skills

Most motor skill learning takes place more rapidly with the aid of instruction. Pupils progress more rapidly if they are able to understand how each part of the activity fits into the total organization of the skill. The teacher can assist the pupil in arriving at a clearer concept of the motor activity by verbal communication, demonstrations, and manual and mechanical manipulation of the learner. Verbal instruction, except as a means of increasing vocabulary in the area, is the least effective. Some form of *demonstration* is the basic form of instruction. The main purpose of observation is not to copy the model exactly. It is to discover and better comprehend the purposes and goals of the activity, the general use of materials and equipment, and the general form of the activity. Through these the pupil learns how to initiate activity of his own that will result in a satisfactory style for him.

The learner begins with a crude concept of the activity and the goal to be attained. He gains this concept mainly through observation and reflection on what he has observed. In printing he observes the letters and finger movements of the teacher. In art

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he observes the sketches, drawings, tools, such as brushes and paints, as well as the technique of the instructor and fellow students. In athletics he observes older boys. From these initial observations he gains an idea of the general pattern of activity but does not grasp the details. A small amount of reflection, discussion, and explanation may help by calling his attention to important features of the activity. Long, detailed explanations by the teacher at this point are not only valueless but can even retard the learning. The thinking phase should culminate very quickly in an initial trial and opportunities for practice.

The pupil uses his body as a whole as best he can to achieve the goal of a satisfactory performance as he understands it. Many irrelevant movements occur in the beginning. In fact, the mass activity may contain no part-activity that is exactly correct and usually includes behaviors that are superfluous and contrary to a good performance. However, the total activity does have some semblance of pattern and form.

Understanding and control develop slowly and attempts to give long-winded, involved, detailed explanation or demonstrations, especially at the beginning, are worse than useless. Trials are the chief source of data for improvements in the pupil's skill. Practice helps to reinforce the more useful behaviors and to eliminate the inappropriate, less efficient ones. The teacher's function is that of directing attention to the essential features of the activity.

Manual or mechanical guidance by the instructor is mainly used to give the learner a kinesthetic perception or "feel" of the activity or to carry him through a dangerous operation. To illustrate, the teacher often guides the hand of a young pupil in forming words or letters. Such guidance avoids much trial and error by the pupil. Efficient responses are promoted by the teacher's assistance. The success of such efforts is largely dependent upon the extent to which the learner actively assists in striving to master the task while being aided. Passive acquiescence on his part will result in no gain. The pupil on the playground who gets help with batting by having the teacher swing the bat with him gains little unless he uses his muscles enough to "get the feel" of a correct swing.

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The teacher's view of practice

Practice is a necessary but not sufficient condition for learning. The tremendous amount of practice required to become a concert pianist or ballerina is well-known. Practice which is self-impelled and aimed at satisfying one or more of the learner's important needs is basic to the learning of motor skills. Pupils must see its importance in relationship to their own goals. Knowledge of results helps the learner to determine whether he has been successful or whether he has failed. However, enforced practice can lead to satiation and boredom, a fact which has often been overlooked in the use of drill. When pupils perform under conditions where they are not motivated they may learn to avoid the situation and acquire a dislike for both teacher and school. They may also learn not to do what is practiced if the consequences are such that they do not meet their needs.



FIGURE 17-6. A situation where excessive use of muscles does not cause fatigue and one where fatigue sets in after only slight use.

Hence, we can conclude that it is the practice or repetition of certain desirable conditions which result in learning, not just practice for the sake of practice. Let us consider some of the conditions in which the effectiveness of practice varies.

The distribution of practice time is important. Numerous

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experimental studies (11) have shown that in learning motor skills short practice periods are more desirable than long ones. Apparently this is so because the short period favors high motivation and less fatigue. Teachers and coaches sometimes make practice sessions too long. The second aspect of distributed practice is the length of interval between practice periods. This topic has been investigated extensively. The findings seem to indicate that twice daily, daily, and three times a week are all satisfactory arrangements for many motor skills. It is probable that once a week is not sufficiently often.

Motivated practice is usually rewarded by a diminution of errors and increased skill. Progress consists of gradual improvement of the activity as a whole through revision of detail, keeping in mind that no detail can be just right until the whole is just right. Throwing a baseball involves a combination of footwork, arm, and body motion. The teacher must not permit the pupil to concentrate exclusively on the arm movement while releasing the ball with his weight on the wrong foot. She must require a form that is correct in its essentials. The learner gradually adopts a style which is characteristically his own. Within the limits of that style his movements vary from trial to trial. The total range of variation in movement decreases as skill increases. Occasionally the pupil adopts a style within which improvement is difficult. In typing he may watch the keyboard. When the teacher, recognizing this deficiency, insists that this method be discontinued, a new start must be made with a temporary revision to something approximating the beginner level. Although the typing will now be much slower and contain many more errors, the pupil will become a better typist in the long run.

In general, skills are composed of serial responses. Once the series of movements has been learned it is repeated under conditions somewhat independent of the original causes through the sensory stimulation of the proprioceptors—sense organs located in the muscles, tendons, tendon sheaths, and joints. Skilled performers are able to correct errors more quickly than unskilled performers because of their greater sensitivity to these cues. In fact, efforts are frequently made to remove certain cues. In order

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to accentuate kinesthetic cues and minimize visual cues a learner is sometimes blindfolded when learning to ride horseback. In learning to dance the pupil is usually told not to watch his feet.

Transfer of motor patterns

The ease with which the pupil can learn a new activity often depends upon how well he can adapt and apply previously acquired skill in new situations. Although the previously acquired skill is rarely used in its original form, it may be adapted readily to the new activity if the learner sees its applicability. Mistaken application or partially mistaken application leads to the wrong action. The teacher can render great service by calling the pupil's attention to past skills that have a bearing on the new one he is trying to learn. For example, a person who has been a tennis player and has learned to use a tennis racquet can quickly learn to use a badminton racquet. Even so, he must be taught that, although there are obviously great similarities in using both kinds of racquets, there is a basic difference; the motion involved in swinging a tennis racquet is mainly arm motion while the badminton motion is mainly from the wrist. Unless this difference is recognized and the wrist motion incorporated in the badminton player's swing he will never become a good badminton player.

Throughout this section we have emphasized that motor learning is always perceptual, cognitive, as well as often social. Cues are of varying sources—visual, auditory, proprioceptive, and kinesthetic. Initially many cues are used but as learning takes place fewer cues are needed. The basic ones are acquired and utilized. As in all areas of learning, reflective thinking is important in acquiring motor skills.

Some specific motor patterns

The classroom teacher is in an excellent position to promote improvement in her pupils' motor skills. She can do this mainly in two ways. One, by showing the values of acquiring certain skills and the other, by giving direct assistance and instruction.

There are certain fine muscular skills whose acquisition is an important part of the curriculum. Such subjects as handwriting,

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drawing, art work, physical education, and typing all involve the development of motor skills and are the responsibility of the school faculty. In the early grades most work of this kind is done by the classroom teacher. In the junior and senior high school, such specialized subjects are often taught by area specialists. Most schools have a music supervisor, art supervisor, and physical education teacher. Curricula which usually include laboratory work, carpentry, printing, and the like require the development of many types of motor skills involving both fine and gross muscular activities.

Instruction in penmanship is such an important part of the grade-school teacher's job that it seems desirable to consider this type of instruction in some detail. Two major trends in motor development are seen in the young child who is learning to write: the mass to specific trend, and the trend from large to small muscles. Initially, as a child tries to print letters or numbers he exhibits excessive squirming, facial grimaces, and superfluous large muscle movements. With practice the superfluous movements are reduced and the child performs with a fair degree of confidence and proficiency. The desirability of starting with printing is partially related to the second trend. In printing, most letters can be reproduced by single strokes. When allowed considerable latitude in size, satisfactory printed letters can be produced by the large muscle groups. When the child has acquired more adequate control over the small muscles in the fingers and wrist, he is usually started on cursive writing which is faster and more conventionally used by adults. There is evidence that the early use of printing has no detrimental effect on later cursive writing. In view of the implications of these trends, the teacher should give instruction in printing initially, insuring that the pupil has a relatively free and flexible working space, since there will be general bodily movement. The change-over from printing to cursive writing should be started late enough to allow the achievement of reasonable proficiency in printing but early enough to minimize the difficulties of making the change. It is recommended (5) that cursive writing be initiated in the second half of Grade 2.

One of the problems all teachers encounter is the left-handed

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child. Attempts to explain preferential handedness go back at least as far as Plato and Aristotle. Although the literature abounds with articles about the significance and causation of handedness the extent of disagreement on this subject among scientists is astonishing. There is a fairly common yet mistaken belief that a change in handedness causes speech difficulties *ipso facto*. As evidence accumulates, there is less and less support for this contention which was very popular a few decades ago. At the present time, the evidence seems to support the point of view that the teacher should leave the left-handed pupil alone for the most part. She should intervene only to make his lot easier in a world of gadgets built for right-handed people. In addition, she should remember that certain procedures should be reversed or re-oriented for the left-handed child. For example, as shown in Figure 17-7, the left-handed child should align his writing paper in a different direction than the right-handed boy or girl. There is no doubt but that left-handedness is a handicap in our culture where tools are traditionally designed for right-handed people.

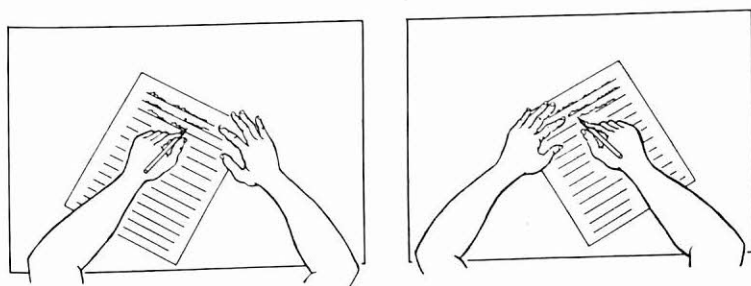


FIGURE 17-7. The proper paper alignment for left-handed and right-handed children. (From G. Hildreth. The development and training of hand dominance: I. Characteristics of handedness. *J. genet. Psychol.*, 1949, 75. With permission of author and publisher.)

However, left-handed people report that the handicaps are relatively minor. "A decision to change a left-handed child to right-handedness should be considered a major readjustment for the child, and a program not to be instituted without serious caution and psychological planning . . ." (18, 12).

The classroom teacher has a very important role in the development of gross muscular skills. It is she who supervises the recess

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periods of the early grades when children are just learning to handle balls, run, and jump skillfully. She can, by giving unobtrusive hints that will help eradicate errors, help the youngsters improve in the skills being utilized. The field of muscular development is so technical that it is not reasonable to expect the classroom teacher to be able to provide the needed instruction as pupils grow older. The specialist in physical education now assumes the direct instructional duties, but the classroom teacher still has an important part to play. For the physical-education teacher to achieve maximum success he needs the fullest co-operation from the classroom teacher. The teacher sees the pupil every day while physical education usually takes place only twice a week. The classroom teacher is in a much more favorable position to observe such things as poor posture, awkwardness, and the need for motor skills to promote personality development and social adjustment. In serving as a co-ordinator and in co-operating fully with the physical-education teacher, the classroom teacher can perform a most important function in promoting the development of motor skills which, in addition, can lead to happier, better adjusted youth.

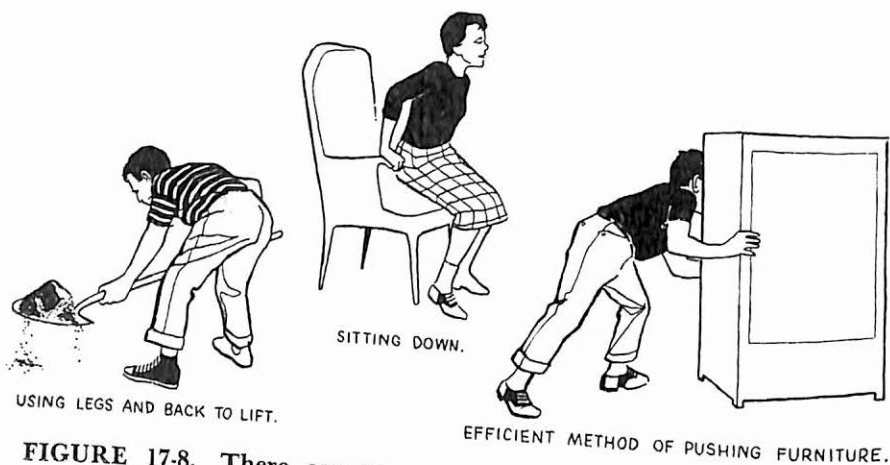


FIGURE 17-8. There are many motor skills that contribute to the effective use of the body in everyday living.

Along with learning how to throw a ball, swim an efficient crawl, serve a tennis ball with speed and accuracy, and drive a

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golf ball with force and precision, the pupil has a much greater need to master the more modest skills of lifting a heavy package, moving a large piece of furniture, and using a spade, hoe, rake, broom, or vacuum cleaner with efficiency and safety. He should learn to perform these tasks, taking into consideration both the results accomplished and how to use the body effectively and without strain. If it is desirable to learn skills in sports it is infinitely more desirable to learn how to use the body in the movements that crowd one's daily life. One skill that is often overlooked but which is of great value, especially to a girl, is the ability to seat oneself gracefully. Figure 17-8 shows some common everyday skills. The classroom teacher can be of great service to her pupils by assisting them to acquire motor skills that contribute to graceful and effective use of the body.

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PART FOUR

*Guiding Your Pupils
Toward Effective
Adjustment in
Everyday Living*

MENTAL HEALTH is a term used in describing how well the individual is adjusted to the demands and opportunities of life. Satisfactory adjustment is characterized by behavior that is both adaptive and constructive. Apply this to the school situation and you have a pupil who attacks problems directly, is able to tolerate normal amounts of frustration, acts rationally and in such a way as to reach goals, and enjoys the companionship of others. Maladjustment, on the other hand, is characterized by nonadaptive behaviors to frustration and conflict. The maladjusted individual is encumbered by needless (and often unwarranted) fears, worries, suspicion, and hostility. Adaptive behaviors are personally satisfying, leading to productivity, efficiency, and a sense of personal worth. The pernicious characteristic of nonadaptive behaviors is not only that their effects pervade all of the pupil's efforts but, in addition, cause more conflict and frustration because they do not furnish direct solutions to problems.

The psychologist's research provides evidence that these modes of adjustment and maladjustment, like other behavior patterns, are learned. Many experiences in the school are known to contribute, positively or negatively, as the case may be, to the pupil's mental health. The classroom climate, experiences with other pupils in social interaction, and even the teacher's personality are among the contributory factors. Fortunately, many are under the control of the teacher who understands them. She can supply experiences in the school which will be beneficial to good mental health. She *can* create an atmosphere which will engender satisfying relationships for her pupils and will work to the mutual advantage of both teacher and pupil.

Personality Integration: Structure and Dynamics

WHEN THE BEGINNING TEACHER first steps into her new classroom she is usually most impressed by the many physical and psychological differences among her pupils. There are wide variations in size, posture, neatness, and other similar characteristics. Some of the pupils appear poised and eager, some anxious and apprehensive, some bored and lethargic. As the class begins and days pass, the alert teacher gradually discovers many of the underlying personality structures and dynamics of her pupils.

The observant teacher with a reasonable understanding of the principles of personality integration soon finds that each of her pupils is an individual in his own right. For example, John L. is an attractive boy with an easygoing disposition, able and willing to accept the challenges of daily living, and rarely at odds with his classmates. When he fails to measure up in some activity, he shrugs his shoulders, smiles at his errors, and either tries again or starts a new activity. In contrast, Robert M. never seems to be happy, whatever the situation. *He is an attractive boy with superior intellectual ability and above average motor and social skills.* Although he usually manages to reach the very difficult goals he sets for himself, his accomplishments leave him tense and anxious. He always seems to be anticipating failure and punishment even though he seldom experiences them. Or consider Mary

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B. who comes from a poor but respectable home. Mary is an intelligent and physically attractive adolescent girl who won't accept friendship from any of her classmates. She goes out of her way to offend anybody who makes friendly overtures. She wears an air of "I'm just as good as you are" but it is apparent that she isn't convinced that this is true.

These thumbnail sketches are fragmentary but they illustrate some of the teacher's early impressions of pupils. They go somewhat beyond the superficial aspects of personality in their emphasis on needs, goal setting, and unconscious motivation. With further opportunities for observation and testing the teacher should be able to expand her first impressions into a more adequate understanding of these young people.

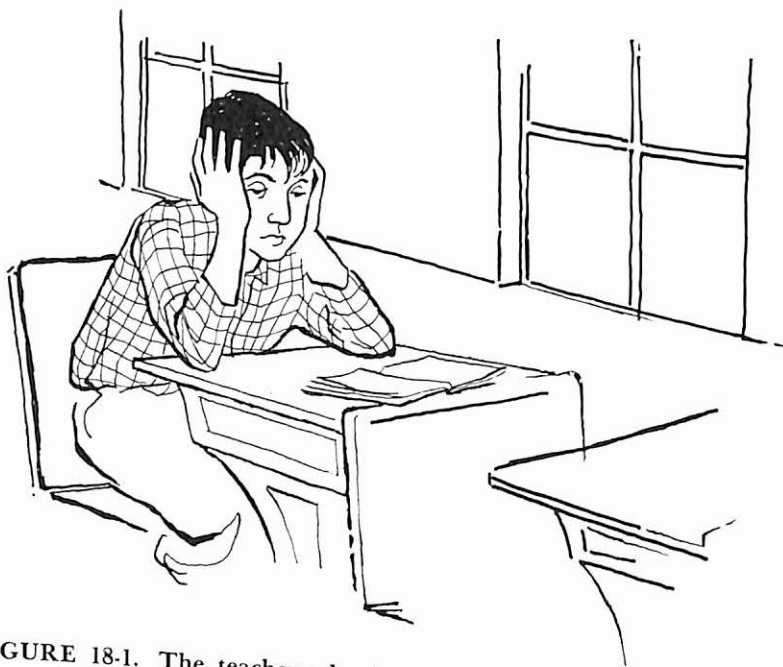


FIGURE 18-1. The teacher who is unfamiliar with modern psychology may see this pupil as "lazy" and troublesome. He is really a pupil without motivation for the assigned task. Careful observation will show that he is far from lazy in activities related to his needs.

Knowledge of the personality integration of each pupil is important to the modern teacher, because she is properly concerned with the total development of all her pupils. She is striving to

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promote a maximum of personality integration and happiness for her pupils as well as the greatest gains in academic achievement. Let us examine some of the complexities of her assignment.

The meaning of personality integration

Personality integration is an ideal state which may be approached ever so closely but never consistently reached. The ideal would be represented by an individual whose needs, satisfactions, and achievements were *always* harmonized and never in a state of internal conflict. He would be optimally happy and productive, with complete knowledge and use of his abilities and acceptance of his limitations. His anxieties would be relieved through productive channels of recreation and work. This is the picture of an optimally integrated personality. The individual possessing this ideal state of integration could be of any level of intelligence and other assets, because the criteria for personality integration pertain to *internal* balance and harmony. The integrated person is "at peace" with himself, and thereby optimally effective (within the limits of his talents) in relating himself satisfactorily to the external environment.¹

In contrast, there are many variations in nonintegrated personalities. An imbalance of needs, self-deception, unrealistic goals, and crippling anxieties may combine in many patterns to produce various degrees of personality disharmony. The nonintegrated personality may be unusually successful by external social standards (a straight "A" pupil, a popular beauty queen, a star athlete, a musical prodigy, and so on), and still be a miserably "unhappy" person. But more often he is handicapped in his goal strivings by the lack of integration. The modern adage "be glad you're neurotic" is a half-truth and a dangerous one. Although it is easy to cite cases of nonintegrated persons who have accomplished great things because of unhealthy compulsive drives and compelling anxiety states, they are the infrequent exceptions rather than the rule. Far more of the nonintegrated persons spend their lives

¹ The reader who is especially interested in personality integration may find the following books of interest: Cameron (1), Dollard and Miller (2), Fromm (3), Hall (4), Horney (5), May (7), and Symonds (9).

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in chronic frustration. They are unhappy in their adjustment status and rejected by others because of their "peculiarities."

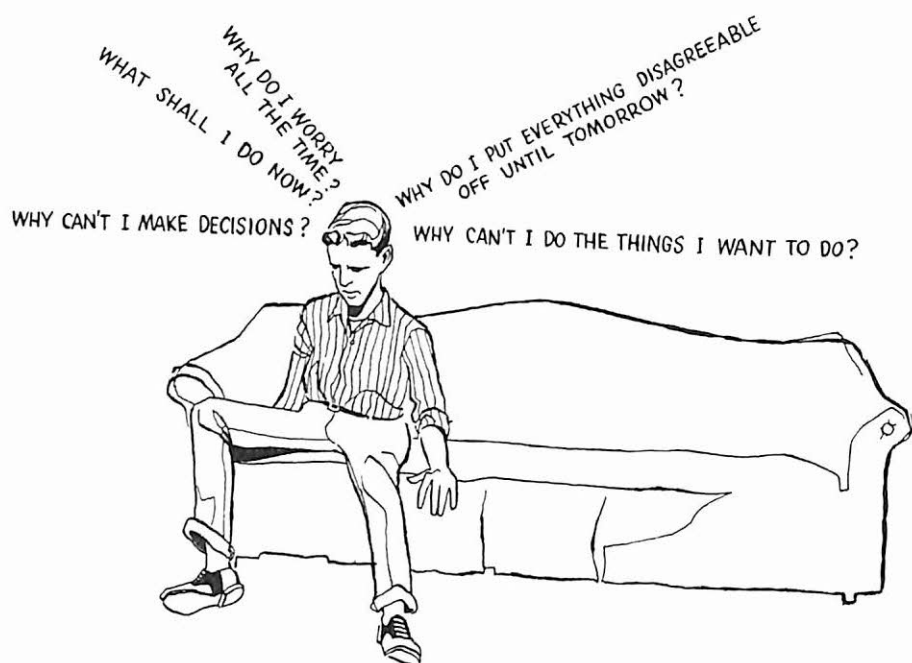


FIGURE 18-2. The poorly integrated personality is "at war" with himself. His behavior is inconsistent and he is plagued by uncertainties and self-doubts. He is unable to accept the consequences of his own decisions.

As we have noted, personality integration is a relative condition for the majority of individuals. Each person has his problems. Self-consistency is not always possible, and ego defenses are not always recognized or understood. Because of this relativity we are inclined to speak of "well-integrated" and "poorly-integrated" personalities. The teacher's goal is to understand the structure and dynamics of personality integration and to do everything possible to promote an optimal state for each pupil.

A "well-integrated" personality: *The Case of John Desmond*

The following brief description of a twelve-year-old boy who has achieved an above-average level of personality integration may help to clarify and illustrate the structure and dynamics of the adjustment processes.

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John Desmond is one of three children of respectable, upper-lower class parents. He is of average intelligence and has consistently earned "C's" and "B's" in his school work along with a few "D's" and "A's". He has superior motor skills and is regarded by his classmates as a "good athlete." He is about average in physique and physical attractiveness for boys his age. He works part-time after school at a neighborhood grocery to earn spending money and to purchase some of his clothing. The majority of his classmates come from middle-class homes and dress somewhat better than John. They enjoy a number of privileges which John's employment doesn't permit.

Now a few comments on the status of John's personality integration which we consider somewhat above average. He is acceptant of his modest home conditions. "We're not rich, but we get along all right." He is sometimes resentful that his after-school work keeps him from going out for Junior High basketball, but this is a temporary response. "I admit that I'd like to try out for the team, but all of us have to work around our place to make ends meet." He is presently making plans to get a weekend job in a neighborhood radio and TV shop so that he can participate in sports.

John is aware of his average scholastic talents. "I have to work hard in school to make the grade, but I don't mind too much. I want to get a high school diploma and a year or two of training at some tech school for radio and TV. Dad and Mom want me to get an education so I won't have it as hard as they've had it."

John and a close friend, Fred, have built a three-tube radio with odds-and-ends picked up from repair shops. They are presently working two nights a week on a shortwave transmitter. They are winding their own coils and saving money for the equipment they must buy. John and Fred have been good friends for several years. They are members of the local Boy Scout troop and informal members of a neighborhood group of boys who go swimming together and play basketball and football in their backyards. John "sticks up for his rights" and sometimes takes his aggression out on other members of the group. However, he usually recognizes social situations in which he is in the wrong and makes amends or admits that he "blew his top." He is well accepted by his peers as a "right guy."

John's relationships with girls are casual. He participates in the social dancing instruction at school but laughingly admits that it isn't too much fun. "I guess I'm not old enough yet."

He is affectionately tolerant of his older sister and younger brother

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and fond of his parents. He has the usual difficulties in trying to establish his independence, but is able to accept parental authority most of the time.

Although this is far from a complete picture of the personality integration of John Desmond, it highlights a number of important behavior tendencies. He has his problems but is not overwhelmed by them. He is generally self-acceptant and realistic. His needs, goals, and abilities are in fair balance, and he usually relieves his anxieties by positive actions. The future mental health of this youth seems well assured.

SOME IMPORTANT DIMENSIONS OF PERSONALITY INTEGRATION

Since the personality integration of a particular person is a complex pattern of response tendencies, a detailed analysis of the component functions is difficult, if not impossible, to make. Each pupil strikes his own balance between inner needs and perceived opportunities for need satisfactions. Some pupils are obviously more successful in maintaining a consistent balance in their adjustment processes than are others. The intricacies of a given pupil's pattern of personality integration can be appreciated and evaluated only through an intensive study by an experienced psychologist or psychiatrist. However, the well-trained teacher can approximate such understanding by using intelligent and sympathetic common-sense supplemented by the formal evaluation techniques available to her. In this section we review some of the dimensions of personality integration which are frequently overlooked or underestimated by the inexperienced observer. Although our discussion is necessarily incomplete in an introductory textbook, it may help to alert the reader to some of the more common deficiencies in personality interpretations by the novice.

Unconscious motivation

One of man's most powerful tools in his eternal quest to understand and control the forces of nature is his mastery of signs and symbols. Language in the form of words, logic, and mathematics

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permits him to invent systematic ways of viewing the workings of the universe. These theoretical inventions when appropriately implemented by engineering talents produce electrical power, atomic energy, and the many other advances of modern civilization. (Man's ability to manipulate verbal symbols is indeed his most valuable skill for channeling the resources of nature to his own advantage. However, modern psychology has demonstrated that words and their associated symbols can also ensnare man in the labyrinth of their abstractions and blind him to his less noble needs and behavior tendencies.²/He develops verbal skills of rationalizing (using false logic or arguing from unreasonable premises to support the propriety of a position) his most extreme aggressive and egocentric actions. In the process of justifying his behavior to others he confuses and deludes himself. These processes in combination with behavior tendencies acquired during the preverbal period of early childhood keep man from understanding, or even recognizing, many of the forces that drive and guide him in his daily living. He tends to rationalize many of his actions after they occur because he has no other choice. He does not know, nor can he ever know, the primitive forces that lie behind much of his behavior.

To ask the boy why he slashed the tires of a neighbor's automobile is like asking the west wind why it blows toward the east. He simply does not know. If pressed socially he may say that he saw it done in the movies, on television, or in a comic magazine, but these statements are merely after-the-fact rationalizations of an action he does not understand. This state of affairs does not condone his aggressive response, but it does illustrate one of the facets of unconscious motivation and emphasizes the complexity of the youth's problem.

Each individual adopts a unique pattern of behavior for satisfying his needs in socially acceptable ways. This process of adjustment involves compromises, self-denials, and self-deceptions as well as the complete satisfactions sought by the individual. The

² See Wendell Johnson's book, *People in quandaries*, New York: Harper, 1946, for an interesting discussion of man's use and misuse of verbal symbols.

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following adjustment mechanisms, drawn from psychoanalytic theory, define some of the more important dimensions of human adjustment.

Sublimation and repression

According to the psychoanalytic theory of human motivation proposed by Freud, the infant and young child are invested with primitive drives which are pleasure seeking, asocial, amoral, and illogical. They demand satisfaction. In the socialization process the infant finds that certain responses evoke punishment from his parents and other individuals in his social environment. The discomfort of punishment forces the infant to modify or suppress his primitive pleasure seeking activities. The most personally satisfying adjustment to this conflict situation is a deflection of the drive toward a socially acceptable goal object. The deflected drive is satisfied without provoking punishment and displeasure.

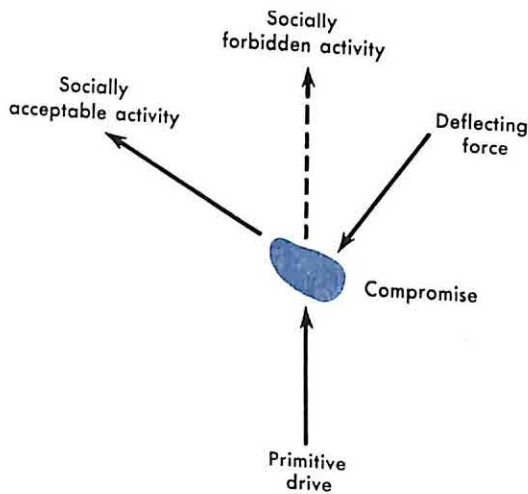


FIGURE 18-3. A schematic illustration of a deflected drive, which defines *sublimation*.

This mode of adjustment is called *sublimation*. Drives toward destruction and personal aggression may be sublimated in ways that are personally satisfying and at the same time praised by others as worthy activities. The construction engineer, the surgeon, and the teacher have sublimated their aggressive impulses which they

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shared in early life with the less fortunate individuals who have become delinquents and criminals. As may be seen, sublimation permits need gratification as well as social approval, and favors a high level of personality integration.

If the demands for social conformity are too severe or are made too early in the infant's development he may be unable to sublimate his primitive impulses. Repeated punishments of "reality testing" may force the infant to deny himself all forms of need gratification for a particular drive. He may be forced to *repress* a given drive tendency. Repressions are doubly frustrating. They prevent need gratification and they also limit the individual's

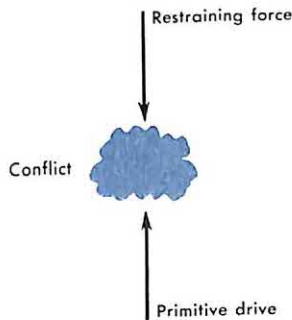


FIGURE 18-4. A schematic illustration of a drive and a counter-psychological force which prevents the satisfaction of the drive. The counter force defines *repression*.

capacity for further psychological growth. The pupil with many repressions is unable to engage in the academic and social activities that would satisfy his needs and bring him the approval and approbation of others. As a further disadvantage, his repressions are always in a relatively unstable state. When he is off guard in sleep or distracted, the repressed drives may overcome or evade their restraining forces in ways that are highly disturbing. Nightmares, impulsive actions, fears, and phobias are common. It is as if the individual were at war with himself. Repression thus produces an unstable and inefficient basis for personality functioning.

Although the fundamental processes of sublimation and repression are developed in early infancy and are unknown to the individual, his personality growth continues throughout the



Identification is an important process in personality growth, because it serves as a generalized guide to socialization and to the acceptance of cultural standards of personal conduct.



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school years. We have observed many instances where insightful and resourceful teachers have helped pupils find socially acceptable outlets for their aggressive impulses. We have also seen withdrawn and repressed pupils "come to life" under wise supervision and guidance. These improvements in personality integration are often associated with a host of secondary gains in academic achievement. The pupil who "finds himself" in some creative activity also usually forges ahead in his school achievements.

Identification and introjection

The origins of identification are complex in psychological theory, but it may suffice to state that the young child usually identifies with the parent (or parent substitute) of the same sex. The little girl tries to pattern her behavior after her mother's, and the little boy attempts to emulate his father. Identification is a most important process in personality growth because it serves as a generalized guide to socialization and an acceptance of the cultural standards of personal conduct. Identification paves the way and is a prerequisite for the introjection of society's values. The self-restraints and the aspirations by which man guides his daily living are the products of *introjection*. The child comes to demand of himself the ways of behaving which are initially demanded by the adults with whom he identifies. His aspirations and hopes become similar to those of the persons with whom he identifies. He punishes himself whenever he fails to live up to his own standards of conduct which are the mirrored demands of the adults with whom he has identified.

Thus we see that identification and introjection perform two important functions in personality growth and integration: (a) the ego ideal, which defines what activities are important in life, and (b) the self-restraints of personal conscience, or superego, which dictate forbidden activities. The child who fails for any reason to experience relatively normal identification and introjection processes is often a miserable person, one who frequently finds his way to a penal institution or a mental hospital. He is typically diagnosed as a psychopathic personality and is recognized

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as an individual without stable purpose or conscience, a potential menace to the welfare and safety of others.

Strong identifications and their accompanying introjections are necessary for healthy personality growth. However, these processes are not without hazard. The child sometimes interprets the demands of others as far harsher than they really are. He may consequently make such heavy demands upon himself that he is doomed to frustration, guilt, and despair. His long-term goals forever elude him and his daily conduct is never to himself con-



FIGURE 18-5. Identification paves the way for introjection and the consequent development of ideals and conscience.

sistent with acceptable standards of excellence. He is paralyzed by feelings of guilt and inadequacy.

It can be seen that the socialization processes of identification and introjection can err in two directions, too little or too much. Neither extreme favors a healthy personality integration.

What is the teacher's role in this dimension of personality growth? The teacher is an authority figure to the pupil with whom he may or may not identify himself depending upon unconscious personal preferences and prevailing teacher-pupil relationships. Almost everyone can recall one or more teachers to whom he was strongly attracted as a hero or ideal. On the other hand, almost everyone can remember teachers whom he resented

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and rejected. The subtle human relationship which promotes the identification process is not well understood in modern psychology. However, it does seem reasonable that more pupils will find themselves able to pattern their introjected values after teachers who are affectionate and understanding. A few master teachers are able to establish such close personal relationships with their pupils that they find pupils imitating their faults and idiosyncracies as well as their desirable personality traits!

SELF-DEFENSE AND SELF-DECEPTION

According to psychoanalytic theory the individual ego (or self) is in the middle of oftentimes conflicting psychological forces. His unconscious needs must be met either directly or in sublimated form, otherwise life is empty and without purpose. He must satisfy the demands imposed upon him by parents and other authority figures in his environment in order to satisfy his complex array of dependency needs. And he must comply with the dictates of his own ego ideal and conscience in order to avoid feelings of guilt and the inevitable self-punishment. Personality integration is thus a delicately balanced series of compromises and decisions—the majority of which occur at the unconscious level.³ This is the reason that we so often experience feelings of guilt, social rejection, and personal frustration without being able to identify reasonable causes.

In view of the many conflicting demands made upon the ego (or self) one can readily understand why an individual so frequently feels frustrated and discontent, anxious and apprehensive. The denials, delays, and compromises which are the warp and woof of psychological adjustment are never completely satisfactory. Hence the individual is in a more-or-less continuous state of anxiety about his adequacy to maintain the ongoing processes of personality integration. Confronted with this difficult assignment the individual adopts a series of self-defenses or self-decep-

³ An interesting and highly readable discussion of psychoanalytic theory and its variations can be found in Mullahy (8).

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tions that help to maintain a semblance of self-consistency and logical order even when the adjustment conditions are actually chaotic. For the average person the self-defenses function largely at an unconscious level so that he is never aware that he is defending or deceiving himself. When employed with moderation the ego defenses *do* contribute to personality integration and feelings of self-esteem. However, when used to excess they may blind the individual to his real needs and problems, and thereby hamper healthy personality growth. It is often the teacher's role to help pupils recognize and adjust to personal problems which their ego defenses have obscured or hidden completely. For example, the



FIGURE 18-6. Personality integration involves a successful adjustment to psychological forces which are frequently conflicting. The individual ("ego" or "self") must satisfy his own primitive needs without offending reality or his "superego."

pupil who consistently blames others for his own inadequacies and failures (defense by projection) must somehow be helped to face his problems in a more direct way. Otherwise he will fail to develop the necessary skills for a happy and productive life.

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Rationalization

This is the most commonly recognized mechanism of self-defense. The individual unconsciously attempts to make his behavior appear adequate and consistent at all times. Defense by rationalization is well illustrated in Aesop's fable in which the fox who is unable to reach a particularly luscious looking bunch of grapes says, "They are probably sour anyway." Because of the popularity of this fable rationalization is sometimes called the "sour-grapes" defense.

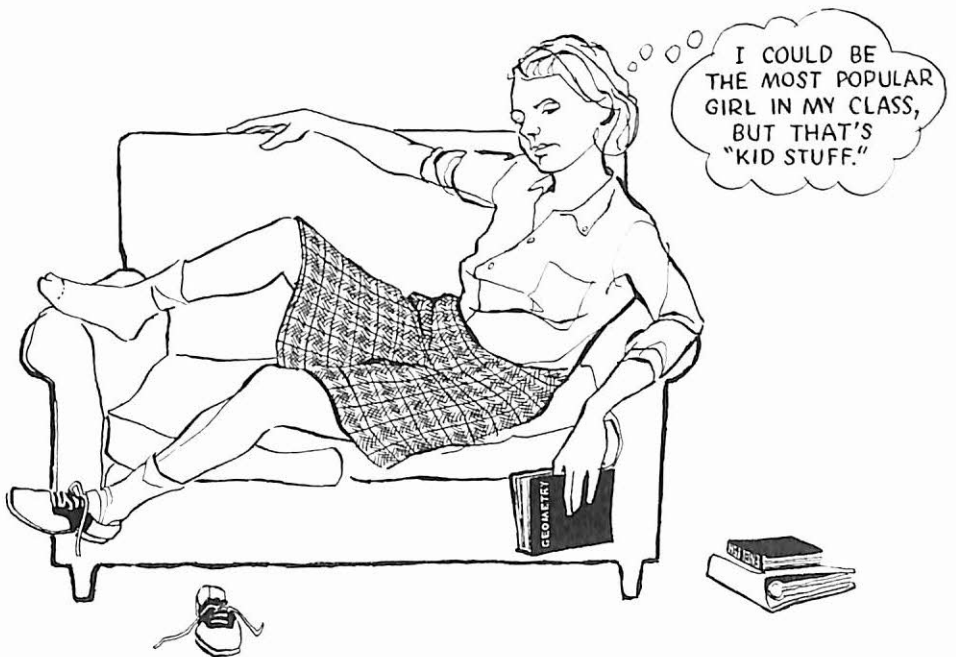


FIGURE 18-7. Rationalization is often used as a defense against failure to achieve success in an important area of life adjustment.

Pupils' rationalizations are often serious deterrents to academic progress. For example a pupil may say, "I'm not very good in mathematics because I don't like it. It's a dumb subject." This rationalization excuses his inadequacy and also prevents him from expending very much energy trying to discover the meaning and importance of this school experience.

Consider the difference in attitude of John and Bill who are both deficient in spelling achievement. John recognizes his rela-

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tively poor talent for spelling and has started a program of home study with the aid of his parents. He says, "I'm not too good in spelling, but I'm improving." In contrast, Bill studies less and less on spelling as time goes by and excuses his poor performance by saying, "Spelling isn't important anyway. When you grow up you can always get a secretary to do your spelling for you." There is some truth in Bill's rationalization, although it glosses over a number of instances in which poor spelling may be a handicap in everyday life. However, Bill's rationalization does illustrate the perniciousness of this form of defense. Most rationalizations are based on half-truths and are therefore especially resistant to change by argument or persuasion. The more effective approach by the teacher is to help the pupil solve his underlying problem. Then the rationalization will fade away because it is no longer needed or useful.

Projection

In projection the individual attributes the causes of his frustration or failure to some other person, to events beyond his control, or to inanimate objects. He may also project his own needs to other persons and state that they want to do things that he himself unconsciously wishes that he could do. When Mary says, "Sandra wants to cheat but is afraid she will be caught," she may be revealing her own unconscious wish and accompanying anxiety.

Projection is a favored way of self-defense because it so frequently satisfies two purposes. When Billy stumbles in the marching band and says, "Carl pushed me," he may be satisfying two needs: (a) he excuses his own awkwardness, and (b) he hurts Carl, toward whom he feels hostile and aggressive over some real or imagined injury in the past. Projection in this instance permits Billy to maintain his self-esteem and also to vent his aggression under conditions that usually preclude immediate retaliation.

Since projection is an ego defense it helps to maintain an integrated personality. However, it is also a means of self-deception and therefore a potential danger when used to excess. The pupil who projects the blame for most of his failures on to other people is in double jeopardy. He deceives himself and thereby

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overlooks opportunities for self-improvement. He also reaps a harvest of hostility and ill favor from individuals falsely accused for his frustrations. The teacher may be able to help her pupils understand this aspect of adjustment by class discussion. Her pupils may become more sensitive to their more obvious and flagrant instances of blame and need projection. However, most projections occur at the unconscious level and constitute behaviors to be understood by the teacher rather than dealt with directly.

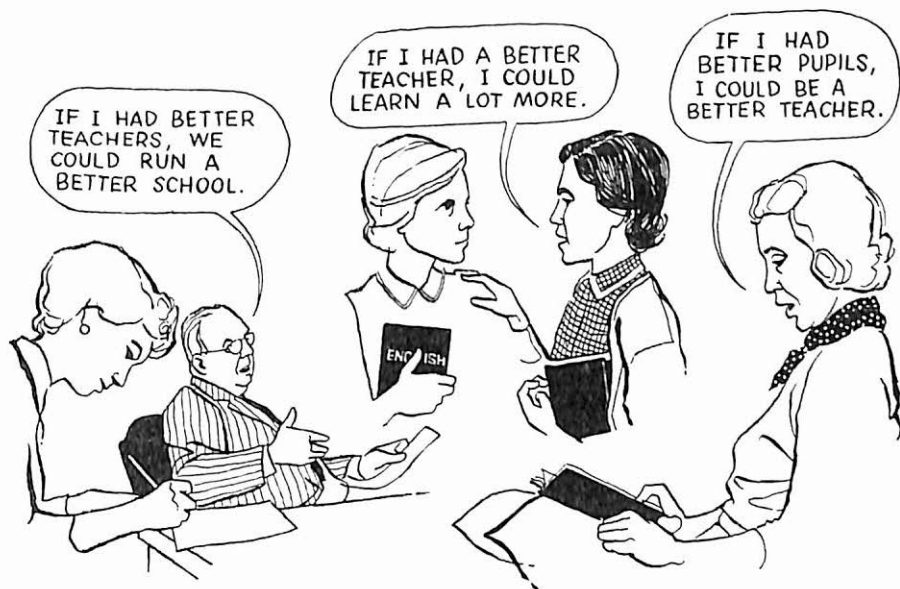


FIGURE 18-8. Everyone has unconscious tendencies to project blame and aggression to others.

Projections are powerful clues to personality integration and adjustment status. They often point in the direction of the pupil's basic difficulties. As discussed elsewhere in this book, projections are systematically elicited by special stimulus materials in some of our most useful tests of personality—the *Rorschach Ink Blots*, the *Thematic Apperception Test* and so on.

Psychosomatic defenses

This is a drastic form of self-defense. Its occurrence usually implies extreme frustration, so intense that other methods of

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defense have proved inadequate. The individual unconsciously adopts the symptoms of some physiological malfunction such as an upset stomach, asthma, headache, visual difficulty, paralysis, or other disorder which automatically removes him from a recurrent problem. Although the cause of his illness or physical infirmity is psychological, his physical suffering is clearly real and disturbing.

The pupil who has an upset stomach or a sick headache on school mornings and is completely all right over the weekend is expressing his chronic frustration through the conversion mechanism of self-defense. The teacher may be able to adjust the school program to lighten his psychological burden, but he should be provided the therapeutic services of an expert. Fortunately, such pupils are usually taken to their family physicians through whom they may be referred to competent clinical psychologists or psychiatrists for treatment.

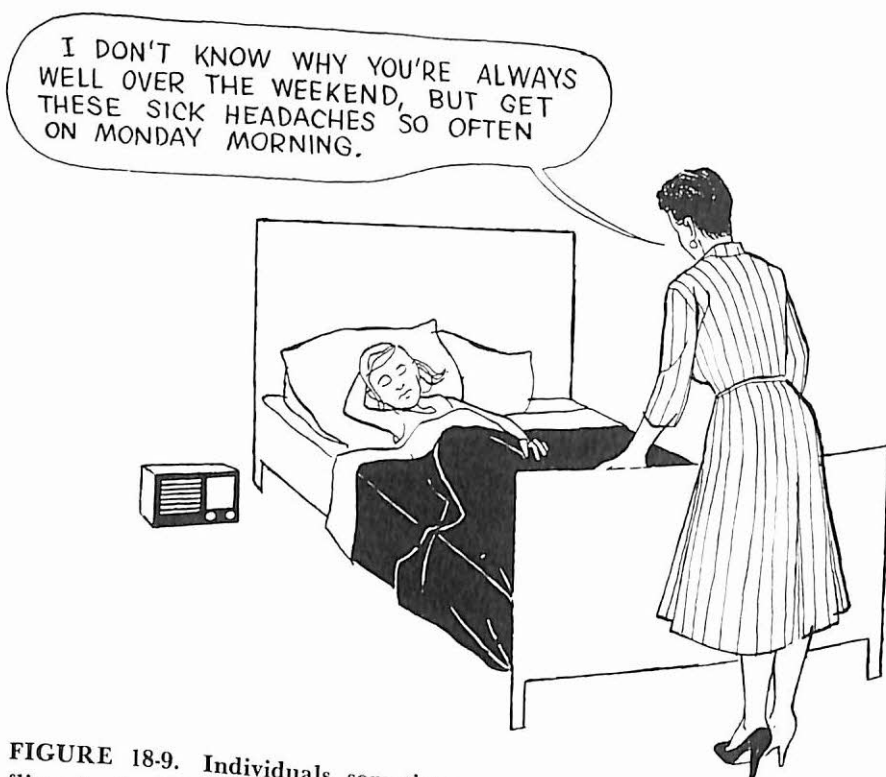


FIGURE 18-9. Individuals sometimes resolve their psychological conflicts by becoming physically ill. Their illness is "real" but clears up when the psychological problem is alleviated.

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Other mechanisms of personality integration

The following mechanisms of human adjustment are presented in less detail because they are judged to be less relevant to the teacher's understanding of the typical pupil. An understanding of their meaning and functioning is more important to the therapist or counselor who works with severely disturbed pupils.

When the individual is particularly unsuccessful in solving a personal problem, he may *regress* to a more infantile or childish response pattern. The temper tantrum is a good example. It is by no means restricted to early childhood. It sometimes occurs in the lives of fairly well adjusted adults who are temporarily overcome by the vexations of unusually frustrating circumstances. An individual's rational faculties are temporarily routed and primitive patterns of shouting, kicking, and so on appear. The tensions of frustration are reduced but the individual is now confronted with new problems: guilt feelings, loss of self-esteem, and imperiled social relations. The temper tantrum acts as a safety valve in personality integration. When it occurs frequently in children of school age it is an indicator of severe personality disturbance and should be regarded as such.

There are several other defense mechanisms which are employed in an effort to maintain an integrated personality. They are complex in their origins and functioning. However, they may be of some academic interest to the teacher-in-training. The *reaction formation* describes a condition where the child unconsciously does the opposite of what he views social reality as demanding of him. The child from a home characterized by an extreme emphasis on cleanliness and orderliness may delight in grime and disorder. The negativism of the two's and three's is a good example of reaction formation at an early developmental level. It is an attempt to deal with demands that are viewed as unreasonably stringent or harsh. A reduction in social pressures for conformity, so that the child can make a more positive adjustment, is desirable. A sullen and resistant pupil is often able to adopt a more co-operative attitude when he realizes that he has a real voice in managing his own affairs.

In *displacement* the individual unconsciously displaces an

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unacceptable idea or action by one that is more acceptable. He may worry excessively about his school work when his real concern is being accepted and appreciated by his classmates. He may resent and reject his teacher when the real antagonism is toward an overprotective mother who smothers him with affection and restraints.

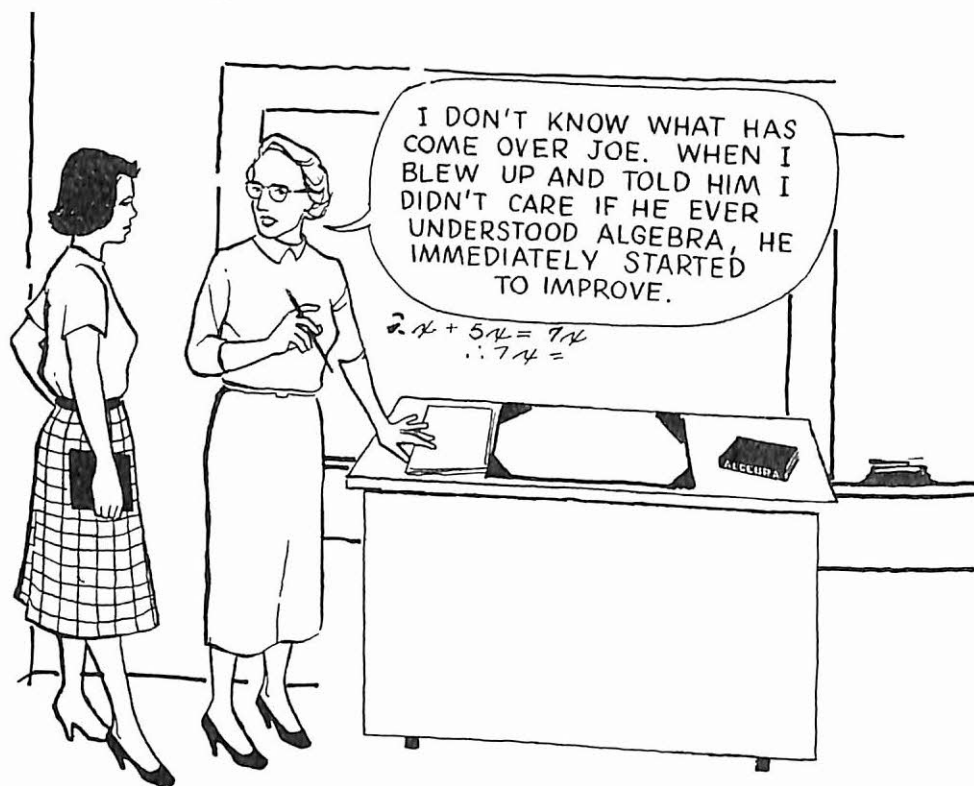


FIGURE 18-10. A reduction in social pressures may permit a pupil to do some positive thing that he has been wanting to do all of the time. Reaction formation is a defense against what are regarded as unreasonable demands from the environment.

The *isolation* mechanism permits the individual to deprive an unpleasant experience of its distasteful emotional content. It produces a stoical attitude. The child may go through a difficult adjustment situation without betraying any sign of emotional disturbance. This mechanism of self-defense is related to repression and may produce some of the same serious consequences when used excessively.

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By the foregoing mechanisms and a few others too technical for description here the individual defends himself and attempts to maintain an integrated and self-consistent personality. The self-defenses are symptoms of psychological distress just as an abnormally high body temperature is a symptom of physical illness. An observant teacher can learn a great deal about a pupil by noting the kinds of situations in which he is forced to adopt one or more of these self-defenses and the frequency of their occurrence.

A positive mental health program

The classroom teacher can do much to foster the personality integration of each of her pupils. These gains toward improved mental health can be realized without sacrificing the more conventional goals of education. The mentally healthy pupil need not be driven to study, for he is alert and keenly responsive to the adventures of living. The pupil who has been severely damaged by life's experiences must find himself before he can even begin to profit from tutorial exercises. Effective personality integration with stability, purpose, and personal effectiveness must be an important aim for every pupil in our modern schools. The remaining chapters of this section of the book are designed to emphasize this point of view and to help expand the teacher's understanding of the dynamics of personality growth and human adjustment.

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Self-Understanding: An Indicator of Mental Health

TEACHERS ARE CHARGED with promoting not only the intellectual development but also the emotional development and adjustment of their pupils. A few teachers are concerned only with the pupil's adjustment in the classroom and the acquisition of course content. There is no question that learning can proceed only if pupils cooperate, if they are not too defensive, and if they try. However, equally significant is the teacher's influence on the pupil's total adjustment both in and out of school. Her teaching methods, her social relationships with pupils and her general behavior play an important part in the pupil's emotional development. Even the teacher who feels that mental health is out of her domain has *some* effect on the pupil, for it is likely that she will ignore the pupil who does not demand attention. In this area there is no neutral position. The teacher has some influence on the total adjustment of each pupil—for good or ill. When she possesses understanding of the fundamentals of mental health and reasonable skill in human relations, the teacher's contributions to the pupil's school experiences can be primarily positive.¹

Pupils can be helped to maintain a healthy adjustment and guided toward self-understanding. Adequate guidance requires

¹ Adapted from H. C. Lindgren, *Mental health in education*. New York: Henry Holt & Co., Inc., 1954. With permission of the author and publisher.

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an understanding of the pupil's motivations, of his defenses, feelings toward self, and the way in which these influence his adjustment.

The pupil's self-concept

As the child develops, there is a gradual awareness of himself as a person. He comes to a use of the pronouns I, me, myself, and mine. Before long there is established a trend toward the emergence of the idea of "what I am."

All of the perceptions, meanings, and attitudes that the pupil has about himself comprise his self-concept (8, 17, 19). There are his perceptions of his body and the acceptability of his appearance to himself and to others. He has feelings about his ability to draw, participate in sports, share in school activities, and engage effectively in social interaction with others. He has a variety of attitudes that comprise his general self-confidence, self-respect, and adequacy as a person. And finally, he has beliefs of his value as an individual, with the right to rely on his own judgment, to make choices, to express himself and in general to make his influence felt.

The notions the person has of himself are established through learning. The term *self-concept* represents all those experiences which result in increased awareness of his personal attributes and resources. His successes and failures define his capabilities and limits.

A most significant stage in the development of the self-concept is reached when the pupil recognizes the differences between his purposes and the purposes of others. Of particular importance is the point at which he begins to identify with others, to attribute purpose and intention to the acts of others. Now when others appraise him, the evaluations become "they think this about me." Most relevant are appraisals by significant persons, like the pupil's parents or teachers who are able to punish him not only physically but psychologically through the withholding of affection or approval (23). If the child feels that he is liked by these significant persons, that he is approved by them; if he feels that he is given the right to "be himself," to try himself out, and the freedom to

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make mistakes, then he will find it relatively easy to feel the same way about himself. On the other hand, the child who *views* himself as being rejected by others (regardless of whether or not they actually tend to reject him), compared unfavorably with others, ignored, given no opportunity to try himself out or to express himself, or who is told that he is bad, will find it difficult to accept himself as an adequate person. Over a period of time such appraisals, continually made and perceived in this light, can only result in one or both of the adjustment handicaps of guilt and inferiority.



FIGURE 19-1. The pupil's perceptions of the evaluations of others is an experience which contributes to the development of the self-concept.

The pupil perceives himself just as he views and evaluates other objects. He behaves in accordance with these perceptions (16) particularly with reference to: This is what I can do! This is what I am! This is what I want to be! These are the values and beliefs I hold! As such, these self-appraisals become a set of expectancies

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about the outcomes of his behavior. The neurotic individual, for example, sees himself as using behavior patterns which are ineffective (7). He does not measure up to his ideal but sees himself as inferior to the average person.

Through trial and error² teachers found that varying their techniques assured greater success than adhering to any single teaching procedure. They also discovered that classroom behavior could not be understood without knowing something about each child and how he perceived himself and the world about him. An illustration may serve to clarify this point:

The setting is a 5th-grade classroom. Three boys have been "cutting up" and in the process have managed to spill a can of paint on the nearly-completed mural the class has been making for the school's Christmas festival. Livid with rage, the teacher reprimands them severely in front of the entire class. Among other things she calls them stupid, disloyal, and irresponsible. She threatens to make them do the mural over after school.

Because she does not single out any one boy for chastisement, one can assume the external stimulus is the same for the three boys. Yet their responses are different because different self-concepts are involved. One boy responds with only a shrug of his shoulders. Through many similar experiences in his five years of schooling he has learned to see himself as a person who does not do what is required, who gets into trouble, who is stupid and a failure by school standards. This latest experience fits perfectly the picture he already has of himself and consequently produces little response. A second boy similarly shows no overt reaction; yet within him hot resentment flames up at being called stupid and irresponsible.

Unlike the first boy his previous school experiences have been successful, happy ones. Being interested in biographies and identifying himself with George Washington, his hero at the moment, he sees himself as he perceives Washington—strong and silent in the face of adversity, one who "can take a beating and face it like a man." If in the heat of his anger he forgets this idea for a moment and blurts out some excuse for his action, he rationalizes to himself that even Washington stood against injustice and fought for what he thought was right. Only by such rationalization can he protect his image of himself as a Washington. The third boy responds still

² From R. M. Brandt. Self: missing link for understanding behavior. *Mental Hygiene*, 1957, 41, 24-33, Pp. 26-27. With permission of author and publisher.

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differently. A leader in physical activities on the playground, he has often played the role of bully among his classmates. He sees himself as a tough character whom "nobody pushes around and gets away with it," even a teacher. Therefore he argues with her over her remarks and claims that the paint can should not have been left near the mural. When her back is turned but when all the children can see, he sticks his tongue out at her. One stimulus but three self-concepts and three different responses—this is the relation of self to behavior.



FIGURE 19-2. How three boys with different self-concepts react to the same situation.

The pupil who overevaluates himself

The teacher will quickly recognize the pupil with an inflated evaluation of himself as the bully, the boaster, or the braggart. He is one who tries to pull himself up "by his own bootstraps" in the sense that although he has fundamentally a low evaluation of himself, he tries to hide this knowledge from the world through a facade of imagined superiority and attention-seeking devices. In a culture which emphasizes the importance of competition, this means of building up the self-concept to hide failures is common. In competition the pupil can show that he can outdo others. Sometimes, much of what seems to be competition for achieve-

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ments and worldly goods are attempts to achieve status and prestige—i.e., attempts to enhance the self. It is as though these individuals were saying, "Oh hear the splash, see the ripples—I must be quite a big pebble!" (1, p. 33)



FIGURE 19.3. A pupil with feelings of inadequacy sometimes builds his self-evaluation through aggression toward easy targets and symbols identifying him with power.

There are other ways in which a person may attempt to enhance his self-concept. He may try to feel "superior" to others by attacks in the form of bias and prejudicial behavior. Another common way is to pile up achievements, activities, and identifications which provide easy signs of "superiority." Joining with persons who are symbols of power, belonging to many different organizations, accumulating honors, *may* all be ways of enhancing one's own glory by borrowing the status from these various symbols (24). Such people often get satisfaction out of setting high goals, whether in sports, social activities, academic work and the like, even though the goals are never attained.

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Although there is no doubt that some of these techniques for defending against feelings of inadequacy may make a person feel adequate this does not mean that it is a *healthy* adjustment. These techniques may be only temporary in their effects for they often lead the individual to feel the brunt of hostility and the envy of his peers (24).

When one tries to force himself in only one direction he often accomplishes this end by sacrificing his development in other more fruitful directions. As Lindgren³ indicates:

Those who have had much experience in working with the problems of emotionally disturbed persons know that the individual who is plagued by feelings of inferiority and who tries to counteract them by competing with others and defeating them is rarely successful in ridding himself of his problem. Any relief that he gains is likely to be temporary, and he is led into an eternal round of "proving" his "superiority" again and again. It therefore appears that the "need to feel superior" is more on the order of being a "neurotic need" rather than a normal one.

Pupils need to appraise their abilities and talents in the same ways that others view them. During these processes of self-appraisal the teacher should recognize that many pupils require the emotional support of friendly adults.

The pupil who underevaluates himself

✓ The pupil who underevaluates himself, or sets low goals, is often unconsciously attempting to camouflage his feelings of inadequacy and protect himself from threat. He fears that an honest appraisal of his own talents would commit him to aspirations and goals too lofty and too difficult to achieve. If he thinks little of himself, he cannot fail in his own perceptions. As you will recall from our discussion of the level of aspiration in the chapter on motivation, setting low goals is one way to avoid failure in a learning or adjusting situation. Goals which are far below the individual's real ability are inevitably reached easily and may be followed by false, but satisfying, feelings of success.

³ From H. C. Lindgren. *Mental health in education*. New York: Henry Holt & Co., Inc., 1954. P. 279. With permission of author and publisher.

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A typical picture⁴ of the person with an underevaluation of himself is that of Bill L. in the eleventh grade:

Bill is a shy, retiring person who usually stays a "safe" distance from other individuals. He knows that he is shy and withdrawing but he says that he is too busy to bother with other people and that he prefers to do things alone. When he does show interest in his peers, he seems to be a hanger-on and sticks with those persons with whom he feels secure. He can read quite well, although he is perhaps less sure of himself than the average person in his class. To protect himself, he says, "I can't read." When he is praised for good work, he feels overly exuberant or even apologetic. Each time he attempts something new, he attacks it as though the undertaking were fraught with risk of failure. In the past year, he appears to be more and more afraid to try anything new. His teachers say, "Bill will try hardly anything." He seems to be more secure in the world of fantasy than in actual performance, delighting in reading comic books which emphasize power and magic, such as Superman and Flash Gordon.

Pupils like this tend to appear quiet, modest, and unassuming. They may appear to be overly polite and to the average person may appear to be "nice children, not like the trouble-makers." Since such behavior is approved by society, there is likely to be constant reinforcement in the form of encouragement and praise.

Pupils who underevaluate themselves may genuinely feel defeated. They feel incompetent, confident that anything they do will turn out poorly. They manifest strong feelings of inadequacy, consciously staying away from activities which will bring prominence or leadership. On the other hand, like Bill in our example, they may rationalize that they are too occupied to bother with people. The impression of giving up before they start is shown in the common complaint, "I'll fail, why should I try!"

Although modern teachers are more aware of the serious symptoms of maladjustive behavior than was true many years ago, they are still somewhat more concerned with the aggressive, disobedi-

⁴ The descriptions of pupils who overvalue and undervalue themselves are based on W. Bonime. The sense of self in children. *Child Study*, 1954, 32, 1, 31-34. With permission of author and publisher.

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ent, and disturbing child than with the shy, retiring one (22).

The pupil who deflates his abilities can be helped. He can be guided toward a more realistic self-concept, through activities which permit him to enjoy working with others. He can be given opportunities to demonstrate his skills to the genuine enjoyment of peers. Such pupils must learn that failure is a temporary setback and need not be embarrassing or devastating.



FIGURE 19-4. The behavior of the pupil who underevaluates himself often goes unrecognized as one who needs help. His quiet, unassuming behavior is "desired" by the teacher and is a culturally acceptable camouflage for his feelings of inadequacy.

Self-acceptance: The pupil with feelings of adequacy

The pupil with feelings of adequacy stands out in sharp contrast to the individuals we have just described. Sheerer has aptly described the characteristics⁵ of a self-accepting person (18). The

⁵ Based, in part, on E. T. Sheerer. An analysis of the relationship between acceptance of and respect for self and acceptance of and respect for others in ten counseling cases. *J. consult. Psychol.*, 1949, 13, 169-175. With permission of author and publisher.

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adequate pupil (self-accepting) has a set of values and standards to which he is committed. He believes in their utility because they have proven successful in the making of many decisions and choices. These values are his guides, the things *he* stands for, rather than the conventions and standards of other people. With an objective and stable basis for judging his own behavior and for solving daily problems he has a minimum of conflicts. There is no need for him to constantly modify his behavior because of irrational fears of what "others might think." His confidence derived from his personal standards frees him from the need to regret his actions even though others may pass judgment against him. He has little need to make excuses for his behavior. Nor does he condemn himself if he fails to meet the standards for acceptable behavior which others have but which are not his own.



FIGURE 19-5. The pupil's self-concept is reflected in his behavior while interacting with others. Describe the different self-concepts represented in this picture. (From S. Jay. *A book about me*. Science Research Associates, 1952. With permission.)

The self-accepting person is not without limitations and he recognizes this. He does not try to evade or deny the existence of certain feelings he has, or his limitations. Neither, on the other hand, does he refuse to see the abilities and the good qualities that he finds in himself. Where he has some limitation, or a feeling that he doesn't like, he does his best to change it. His attitude in this regard is, "I recognize my limitation but I will do my best" or, "This way of looking at things is no longer use-

ful, I will try to change it" rather than, "This limitation keeps me from doing what I want to do" or, "I *wish* I could do the things that others are able to do."

The pupil with self-acceptance does not condemn himself or worry over every trivial circumstance. He isn't forever asking himself about whether he has done the "right" thing in some social situations. He does not become anxious about normal feelings and activities, as for example, when he spends money for recreation or when he takes time from his work for recreation and relaxation. This does not mean, could not mean, that he is free of all guilt feelings. Everybody has these. To be without guilt feelings would indicate a lack of awareness of what is demanded in his society, and what society has a right to expect. On the other hand, his total behavior is not so overrun with guilt that he must continually "ask" for punishment, from himself or others.

His childhood experiences at home, at school, on the playground and with his peers have permitted adequate success, as defined by praise and approval from parents, teachers, and peers (8, 24). These experiences have also been relatively free of severe condemnation or punishment which leads to a sense of guilt. His childhood has been characterized by kind but firm guidance and a "helping hand" during difficult situations rather than stern discipline.

Self-acceptance and the acceptance of others

To thine own self be true
And it must follow, as the night the day,
Thou canst not then be false to any man. SHAKESPEARE

and

We must fear him who hates himself because we
shall be the victims of his revenge. NIETZSCHE

These epigrams of wisdom have been passed down over a good many generations. And for a reason. The pupil who feels sufficiently adequate to accept himself and others has a distinct advantage over other less fortunate persons. When an individual becomes more self-accepting, as happens during successful therapy, there is a corresponding increase in his ability to accept others.

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This fact is illustrated in the graph in Figure 19-6. In general, the lower the opinion one has of himself, the lower the opinion he has of others (15, 18, 21).



FIGURE 19-6. As the individual proceeds through counseling his self-acceptance increases. Note the corresponding increase in his acceptance of others. (Adapted from E. T. Sheerer. An analysis of the relationship between acceptance of and respect for self and acceptance of and respect for others in ten counseling cases. *J. consult. Psychol.*, 1949, 13. P. 174. With permission.)

Self-acceptance provides the pupil with a desirable base for getting along with his peers and superiors. It also provides him with a good base for understanding other people. The pupil who is self-accepting recognizes that his own particular standards and values are important to him and is, accordingly, willing to grant to others the right to their beliefs and values. His self-confidence is the bulwark of his strength against defenses and threats. He need not cover up for his limitations by conceit, assertiveness, hostility, or extreme withdrawal. Inasmuch as he recognizes and accepts both his limitations and superior qualities he does not feel uncomfortable when praised or when some idea he has presented is criticized.

The person who has doubts about his worth and is unsure of himself becomes easily threatened by others and finds it difficult to accept them (17). As a consequence of his feeling threatened there is a need to be defensive. Suspicion and aggression toward others is a natural outcome. Understanding other individuals is difficult to achieve because they are perceived mostly in terms of

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threat or nonthreat to himself. Unfortunately, he is unable to perceive others in terms of the contributions each can make to their mutual benefit.

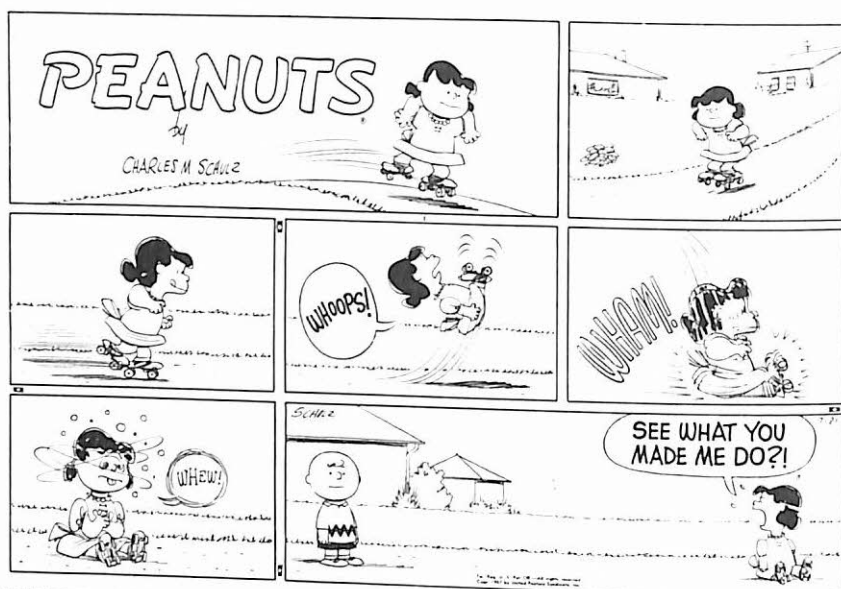


FIGURE 19-7. Pupils who are thwarted often blame innocent persons as the cause of their shortcomings. Teachers guide pupils to replace this mechanism with rational behavior.

The school and the mental health of the pupil

Although it is true that the trends of emotional adjustment have been well established by the time the boy or girl enters school, there are still many influences which may affect his development. The mere fact of entering the first grade may be a sufficiently significant experience to contribute positively to the pupil's sense of worth (20). There goes with this experience a feeling of "bigness" and independence. At the same time the pupil meets new patterns of authority exercised during school hours. Social interaction with peers occurs on a larger scale than it did before the child went to school. These experiences in the school environment are also heavily laden with rewards and punishments, approval and disapproval, acceptance and rejection. These are constant reminders from his peers and teachers of his limitations, shortcomings, failures, strengths, and capabilities.

The first day in school is a "big" experience. How will he react to new authority figures, new social interactions and all of the many other new experiences?



In a setting where understanding prevails, evaluations are not detrimental to mental health. Used judiciously and effectively they can promote mental health. In fact they are necessary to help the pupil meet the realities of life. The pupil becomes aware of his potentialities and learns how they can be applied to greatest advantage. He also becomes aware of his weaknesses and limitations. He learns to accept failure without demoralization and without "giving up."

Some of the specific areas in which the school may engender unhealthy (unwarranted and unjustifiable) self-evaluations are high-lighted by Arthur T. Jersild (8). He points out that in school there may be an emphasis on some kinds of achievement to a greater extent than is actually merited by the outcomes. In these categories are placed such activities as sports, some social organizations like fraternities and sororities, and even an overemphasis on academic accomplishment. The boy (or girl) who fails to be a "star" in these areas may be subjected to a contrived or false evaluation. He may feel that because he does not meet the so-

called standards in one area that he is inferior in all respects. These self-deprecating circumstances may be humiliating and do him great harm.

Other areas in which pupils may be affected adversely are also indicated by Jersild. The poor report card may be used as a tool by parents for further rejection of an already rejected child. Social status differences frequently exert a subtle influence on evaluations made by both teachers and peers. Pupils who are in the upper social classes are graded higher by their teachers than those in the lower social classes even though intellectual ability and performance are the same (6). Test results may be used out of all proportion to their value (especially when tests are poorly constructed) as the final answer to the pupil's adequacy. Evaluations made on these bases often involve invidious comparisons. Such procedures usually fall far short of helping the child gain a realistic understanding of himself.

In addition to paying some attention to the *areas* in which self-evaluations occur, the teacher should also consider the best *time* for contributing to specific phases of the pupil's emotional development. Thompson and Witryol (25) indicate, for example, that in the 6-12 age group, pupils find feelings of guilt, and being teased or ridiculed as being among their most unpleasant experiences. During these years there is a growing demand placed on the pupil for conforming to the standards of his society and he experiences a feeling of inadequacy when he does not, or is unable to, meet these demands. There is the implication that perhaps this phase of socialization is imposed on the child too early in his development and that it might more properly be postponed or at least initiated more gradually. In the 12-18 age group different problems emerge. (These results are presented in Figure 19-8.) These pupils experience feelings of inferiority, insecurity, and social inadequacy as being among their most unpleasant experiences. This may be a partial reflection of the cultural values and standards which pupils feel they must meet.

Perhaps parents and teachers⁶ . . . need to instigate counteractive

⁶ From G. G. Thompson and S. L. Witryol. Unpleasant experiences during childhood. *J. genet. Psychol.*, 1948, 72, 111-123. With permission of author and publisher.

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measures [to advertising, unrealistic generalizations about successful living and the like] to build up the individual's sense of personal worth and to help him set up levels of aspiration in work and social affairs that are commensurate with his abilities and needs.

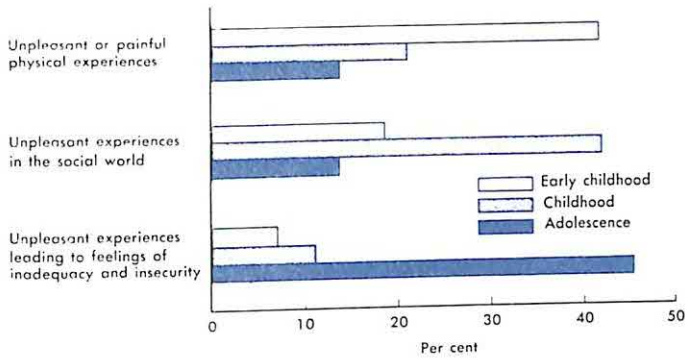


FIGURE 19-8. Adult recall of unpleasant experiences during three stages of childhood. The specific problems of adjustment are peculiar to each stage of "growing up." (Adapted from G. G. Thompson and S. L. Witryol. Adult recall of unpleasant experiences during three periods of childhood. *J. Genet Psychol.*, 1948. 72, 111-123. With permission.)

The "causal" approach to self-understanding

Insight into the dynamics of one's own behavior and into the causes of one's behaving in an undesirable way are essential conditions for attaining mental health (3). So the pupil is encouraged to give up whatever he is doing that shows he is maladjusted. He will change his present behavior, however, only when he recognizes that this is not in his best interest. He cannot arrive at this realization until he is able to perceive himself and others in a more objective light. When this reorientation has been accomplished, the psychotherapist would say the pupil has attained insight. For some pupils, particularly those who are severely disturbed, there is strong resistance to this change. Accordingly, one of the aims of the school is to prevent poor emotional health by fostering insight *before* maladjustive behavior patterns have developed. This viewpoint places the responsibility for mental health on every parent and every teacher from the kindergarten through the high school years (11).



Helping pupils overcome their fears. The other pupils accept Don's fear of turtles with understanding. When he does approach the turtle, they provide him with support rather than jeers. (By permission from *The teacher and the child*, by C. E. Moustakas, 1956. McGraw-Hill Book Co., Inc.)

Levitt and Ojemann⁷ propose that self-understanding may be promoted through a "causal" orientation. Several steps are suggested in the development of this approach (11, pp. 394-399). The pupil first learns that behavior is complex and caused by the existence of a number of factors interacting in complex ways. Secondly, the pupil must be able to recognize that there may be several alternative explanations for his behavior and that of others. For example, the same desire for prestige may result in quite different behaviors in different pupils. One may go out for the presidency of his class, while another may turn to delinquency for attaining prestige in his peer group. The converse may also be recognized, that is, that different motivations may lie behind the same behavior. Four children arriving late for school, for example, may have been motivated in quite different ways, one by family problems, another by his need for companionship, a third for fear of school, and a fourth because he overslept as a result of fatigue. The pupil must also be encouraged to perceive

⁷ Based on E. E. Levitt and R. H. Ojemann. The aims of preventive psychiatry and "causality" as a personality pattern. *J. Psychol.*, 1953, 36, 393-400. With permission of author and publisher. Also see other references (10, 14) by the same authors.

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this behavior from the viewpoint of the other person. In his interaction with other people he must realize that *his* behavior will have an effect on what others do. This view has been a major cross-current throughout this chapter. Recognize, for example, the effect that the teacher's actions or the parents' attitudes have on the pupil's feelings of adequacy. The pupil must also learn to suspend judgment of another person until he has sufficient information for this judgment.

First steps must be mastered before later ones can be taken. The individual must be able to adapt readily to changing situations and changes in his self-understanding as they occur. He must be able to avoid making black-and-white decisions about others and to accept them with their good and bad points. He must be able to maintain affectionate and permissive interpersonal relationships. *And during this process there must continually be self-acceptance.*

Pupils taught by teachers with a *pupil-centered orientation* have been found to be less authoritarian, more responsible, and less self-blaming than pupils taught by the class-centered approach (10, 14). The teacher who understands the causes of behavior (her own as well as her students) will contribute most to the mental health of her pupils since she conveys what she knows by her manner of talking with the pupil and by the information about human relations that she provides.

The teacher understands her own behavior

Pupils who need help have various problems. We have already described those with a lack of self-esteem. There are also those with a ready temper who burst into fits of anger at a moment's notice. Some seek to deny their own weaknesses by blaming others. Others are frightened, unwilling to take a reasonable chance, and worry about what "others" may think. Still others betray their anxieties by inability to learn, impertinence, inattentiveness, and restlessness.

To understand these pupils the teacher must first understand herself (9). She must be able to face her own anger, fears, anxieties, strengths, and weaknesses if she is to understand similar reactions



The teacher assists the child in exploratory behavior and in increasing awareness of his behavior. Insight into her own behavior is an essential characteristic if the teacher is to provide this guidance effectively.

in her pupils. She can comprehend the boy or girl's hostility when she recognizes the forces of her own anger. She can better understand the devices for self-deception when she recognizes how she uses them herself. Self-understanding is not always an easy process and even with the help of others such as a therapist, it may be a painful process. It is always a gradual process which is never complete because the self-concept is always in a state of change.

With insight into her own behavior the teacher is in a relatively favorable position to accept the maladjusted pupil. She will recognize without effort that the admonitions of "Snap out of it!"; "You ought to know better!"; "Aren't you ashamed!" are just as ineffective as any lecturing that is supposed to have a remedial purpose (9).

As shown by deGroat and Thompson (5) different amounts of approval and disapproval by the teacher have a marked influence on the pupil's adjustment. Boys and girls who received the combination of a high amount of approval with only small or moderate degrees of disapproval exhibited better self-adjustment

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than groups who received large amounts of disapproval and only little or moderate approval. The child's evaluation of himself and his self-confidence are influenced by the degree of teacher approval or disapproval that he receives. Teachers must attempt to distribute their approval evenly and fairly. It is important that they be on guard against favoring selected pupils because they happen to have some specific advantage such as high achievement or upper social status. You will want to compare the characteristics of such pupils by referring to Table 19-1.

TABLE 19-1. Characteristics of pupils approved and disapproved by teachers.*

<i>Pupil Characteristic</i>	<i>Pattern of teacher approval-disapproval</i>	
	<i>High approval— Low to moderate disapproval</i>	<i>Low to moderate approval— High disapproval</i>
	AVERAGE SCORE	AVERAGE SCORE
Mental maturity	101	83
Academic achievement	277	241
Total personality	120	98
Self adjustment	57	47
Social adjustment	66	51

* Adapted from A. F. deGroat and G. G. Thompson. A study of the distribution of teacher approval and disapproval among sixth-grade pupils. *J. exp. Educ.*, 1949, 18, 57-75. P. 70. With permission of authors and publisher.

The following experience of one teacher in promoting self-understanding is typical:

... Previously,⁸ the pupils who seemed to struggle with the [class] material were a source of annoyance, but I have changed on this point.

One girl is a good case in point. At the start of the year she seemed to be a compulsive talker. Other teachers found her unpleasantly aggressive; I made up my mind that I'd listen to her. When she found she was accepted and felt more free to speak her

⁸ From N. Cantor. *The teaching-learning process*. New York: Dryden, 1953. Pp. 273-274. With permission of Henry Holt & Co., Inc.

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thoughts, she began to argue at any opportunity. Gradually this has disappeared. Just the other day, she stopped after class to tell me that at the beginning of the term she talked a great deal because she was unhappy since she simply couldn't memorize lessons and wanted to make an impression. When she realized I was listening to her, she felt she ought to stop talking and think things out for herself before she spoke. Now, she went on to say, she thinks about what she studies, something she never did before, because I consider what she says important.

The pupil needs to be accepted as he is, to feel that someone knows how he feels. Under these circumstances he can verbalize his feelings. The teacher may help by putting into words those feelings which the child has difficulty in expressing. In this way the pupil will also recognize that he is understood.

Contributing to the development of self-esteem

The teacher can do much toward creating a classroom atmosphere which will promote good mental health for the pupils under her direction. This is not to say that she is expected to be able always to undo whatever maladjustments her pupils may have brought to the classroom with them. Nor is she responsible for treating the serious maladjustments. *These she should be able to recognize and realize that she should keep her hands off them. Her duty is to refer them to a specialist and to co-operate with the recommendations made by him.* However, as she develops understanding about pupil behavior she will be able to minimize the negative factors and promote the positive conditions which contribute to mental health.

The teacher will try to inspire the pupil's confidence by providing him with tasks and problems which are not overwhelming, but well within his capacity to solve. This is particularly important during first experiences with new tasks. The pupil, for example, who receives nothing but jeers from his classmates and admonitions for poor grades from his teachers will develop a feeling of inadequacy for academic and school tasks. Insofar as possible the teacher should try to present each pupil with challenging and increasingly difficult learning and problem-solving

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experiences but in which he can be successful.

Through opportunities to express himself the pupil is encouraged to try out his emotions, capacities, and his abilities without fear of humiliation if he fails. Through mastery and the experience of success in fundamental academic and social skills he acquires a tolerance for the occasional frustrations and disappointments which he is bound to encounter. Some schools dote on punitive methods involving harsh criticism, sarcasm, reprimands, and failure. These methods lead the pupil to evaluate himself as inadequate. This is not to imply that the pupil should do as he pleases under all circumstances or that he should never be reprimanded. Rather, what we are saying is that the pupil should not be criticized, humiliated, or failed because he is a convenient target for the projection of the teacher's own inadequacies. Failures and difficulties make excellent opportunities for helping the pupil profit from his errors. The reprimands of, "I told you so!" or "I'll spank you for doing that!" can be easily replaced with the more accepting statements of, "Let's see if that error could have been avoided." "Now that the damage is done, what can you do to repair it?" or, "What are the consequences of your decision?"

The classroom atmosphere recommended in this chapter is not one of extreme permissiveness. Nor is it one in which the pupil must bow to every dictate of the teacher. It is intended to be one in which the pupil is treated with fairness and justice. There are requirements in the form of time limits, assignments, school regulations, societal values, and community mores which must be met. Through contacts with these the individual comes to recognize the inflexible requirements of his society within which he is permitted satisfactory self-expression.

The teacher has innumerable opportunities for contributing to the pupil's self-esteem. Every interaction between the pupil and teacher is important in this regard. The teacher who is accepting encourages the pupil to express himself, to make mistakes and to correct his mistakes without reprisal. The effective teacher encourages the pupil to accept himself, face his fears realistically and turn his failures to advantage.

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Personal Adjustment: Adapting to Social Realities

IN ALL SOCIETIES the individual's environment includes psychologically important cultural factors, norms, and standards. These social conditions function as general guides for each person's behavior. Although there are major differences among cultures, these regulations, the idiosyncratic standards, values, morals, and laws of each society exist as cultural demands.

The differences in social reality for boys and girls in various cultures are well documented in social anthropology. By way of illustration, we briefly describe a simple demand in each of three primitive cultures (7, 19, 20). In Kwoma, the child learns a respect for food "poisoned" by sorcerers. The Sioux learns what to us would be a perverted concept of "generosity." (The ideal of generosity means an unlimited sharing of one's goods with others—even to the extent of stealing.) The Yurok, on the other hand, learns to be angry, "stingy," and suspicious.

Facing reality in these tribes means knowing the values of the tribe or culture to which one belongs and living in accordance with them. In Kwoma, reality consists of following the rules about eating—that is, you would not eat food which came from another tribe, for it might carry the curse of the sorcerer hired by your enemy. The Sioux, because he believes in an unusual concept of generosity, might be accused of stealing by the standards of our

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society. The Yurok is a most restrained person! He eats in complete silence so that he can think of fishing and of ways to make "money." His restraint gives him the appearance of being unsocial, if not antisocial.

By our standards none of these behaviors would be considered acceptable. They would be labeled by such terms as odd, defiant, or deviant. However, these individuals are facing the social realities of their particular cultures. They are undeniably well adjusted in their societies.

A person must behave in accordance with cultural demands in order to satisfy his social needs. If he strays outside the defined social restrictions, he may be punished either through the operation of formal laws or in informal ways such as being excluded from his peer groups.

The cultural demands most important to the mental health of pupils in our society relate to their social interaction. In the United States the pupil lives in a dynamic society. His social interactions are in a continuous state of change around a more or less stable fulcrum of cultural values. To maintain satisfying social relations he finds that he must share the beliefs of the majority of the group (as is the case in every society). His social contacts permit him to judge when his attitudes are "different" or "incorrect" (9). Fortunately, *individual* appraisals of various kinds do occur and are permitted. The pupil's task is one of learning to stay close enough to social realities, so that he is not personally handicapped, without at the same time losing his individuality.

Social reality

The pupil can be helped to handle his problems realistically. He must eventually learn what goals and modes of adjustments are most satisfactory. He deceives only himself if he does not recognize which goals he is capable of achieving and which are impossible of attainment. Lack of understanding usually results in conflict and more or less continuous suffering from anxiety.

There are two major dimensions in the pupil's learning to face social reality. The first is a highly personal one involving the pupil's own experiences and perceptions. No two people are

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likely to share an identical experience, nor are they likely to extract the same elements or meanings from similar experiences. Hence, each individual's expectations about the outcomes of his behavior will be somewhat different.

The second dimension relates to the broad values of the culture. These values affect the individual's behavior in all social settings, the pupil's teacher, peers, community, and church. Each social situation has its own demands for specific kinds of behavior. The pupil's expectations color his mode of adjustment in each setting. Under normal growth patterns he learns to behave according to his successful experiences in each social grouping. He learns that socially commendable behavior in one situation is not necessarily appropriate for all social situations.

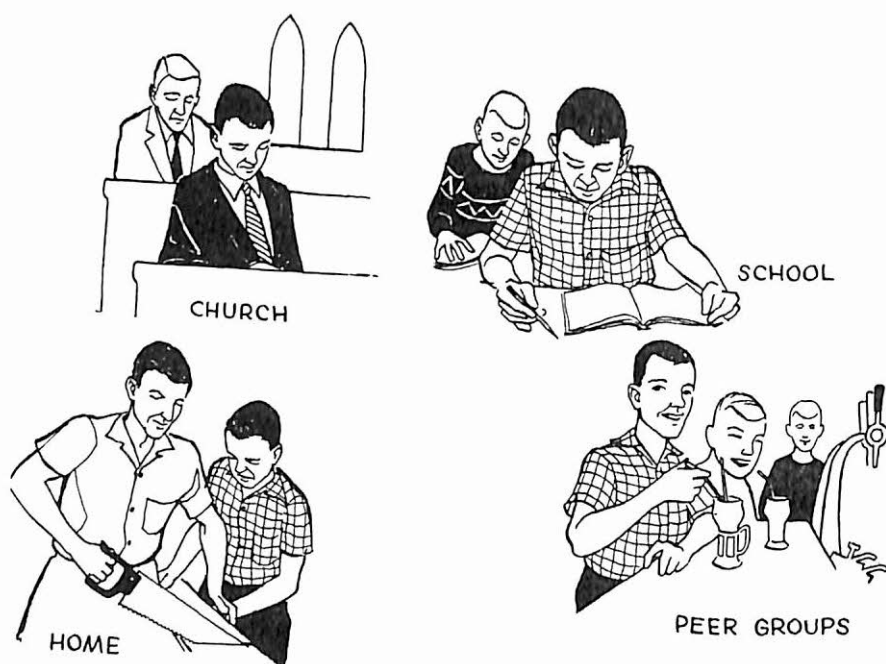


FIGURE 20-1. Experiences leading to the development of social reality are centered in many social groups. Each contributes to a broader development of the successful patterns of behavior in one's society.

The realistic person is able to look at his personal problems objectively (17). His behavior is guided by all of the important facts at his disposal. He looks critically at his own plans and

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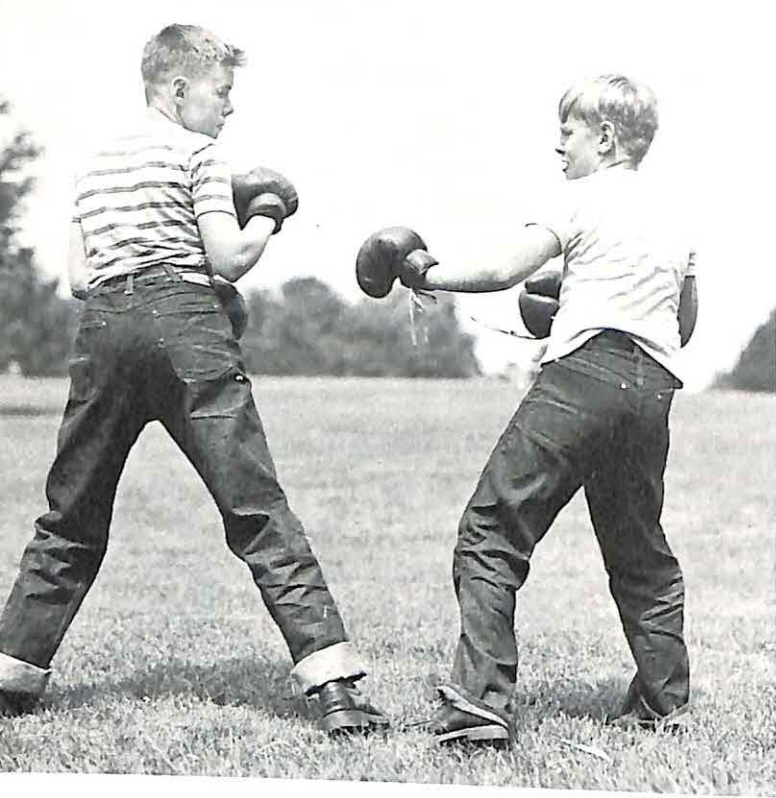
endeavors. He learns to give up immediate satisfactions in order to reap greater gains in later gratification. He tolerates and accepts many minor frustrations and anxieties, and is thereby free to devote more energy to the bigger problems. Needs and goals which cannot be attained are changed, or modified. He recognizes that hostility and aggression are the result of anxiety and insecurity, and inevitably lead to damaged social relationships. He therefore takes others into account in his plans and actions. He acquires skills for meeting his own needs in ways that facilitate rather than restrict the need strivings of others.

Pupils who perceive social realities accurately and who act accordingly are commonly described as "socially sensitive" or "tactful." They sense the moods and unwritten codes of the groups to which they belong, and adapt to them with a delicate sensitivity. They pick up subtle social clues which enable them to understand and appreciate the behavior tendencies of others.

The socially "blind" pupil is at the other extreme. He constantly provokes others by his actions and by his apparent insensitivity to their feelings or neglect of the group code. Such pupils lack skills for inferring how others may feel toward them. They are below average in predicting the reactions of others. They cannot seem to size up what makes one popular or unpopular in a group, or to recognize the limits of acceptable behavior. The following report¹ describes an incident in the life of a young socially inept child who was undergoing psychological treatment:

On the afternoon that he was scheduled to go with me to have his haircut, Larry was in a transport of joy. He was going around gaily chanting and bragging, "My haircut, my haircut, Emmy's goin' to take me for a haircut." This incensed the group against him and caused a flurry of attacks on him by the others. Joe punished him viciously, calling him "baby" [and other names] and had to be pulled off him by the counselor. As usual, the sibling hatred of the group was stirred up into open rage by his injudicious bragging. He has been in the same situation innumerable times. So far we have been unable to make him aware of what he was letting himself in for.

¹ From F. Redl and D. Wineman. *The aggressive child*. Glencoe, Ill.: Free Press. P. 125. With permission of author and publisher.



Competitive sports and competition are mediums for learning to adapt to social reality. The children at the bottom have failed in these adjustments and the development of their behavior is being redirected through play therapy.



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Here was a child who had not learned the habits and customs of his playmates. Such maladjusted children usually require long periods of training and therapy to overcome their social inadequacies. The teacher should refer such seriously handicapped pupils to qualified personnel.

The pupil with minor difficulties in facing social reality can be helped by the classroom teacher. He can be taught to see the consequences of what he is doing by observing his peers and drawing inferences as a "bystander." He can learn to take success in stride without making himself intolerable by excessive bragging. He can learn to regard failure as a stepping-off point instead of a demonstration of his inadequacy.

Competitive activities provide an excellent medium for learning to adapt to social realities (17). Pupils can learn that competition from an opposing team is not "hostile" and that one can be a "good loser."

Reality testing as one form of social learning

Through reality testing the pupil learns those adaptations which are most successful for him. He gains a fund of "realistic" knowledge about his environment by continually testing the results of his own experience against the accepted pattern in his culture. In large part, his evaluations are based on the reactions of other "significant" persons to his activities.

Reality is tested by trial behaviors of many sorts (17). When the child tries skating for the first time, he may stay close to his companion until he has confidence in his ability to "solo." Sometimes he attempts to anticipate the outcomes of his behaviors by testing them in play or fantasy. Less threat or danger is involved in these "pretend" activities. These activities help him to adapt to reality by procedures that parallel the adult's experimentation and planning. The realistic pupil does not carry play to the point where he believes his imaginary roles. His indulgence in them is only a temporary means of helping him learn the appropriate actions required of him in his social role. However, if play and fantasy are not clearly distinguished from activities in the real world, the pupil may be exhibiting a serious form of maladjustment.



Children's play provides the opportunity for exploration and experimentation with impunity. Trial solutions to problems may be worked out without fear of humiliation. (Burbank, Calif., Unified School District.)

Reality testing is a continuous process. New demands are made of the pupil in day-to-day activities. He may move from one group to another, or his role in the community may change. Frequently, the old patterns of behaving are no longer adequate and new adaptations must be learned. He must then test the limits of what he can or cannot do in these new situations. This does not mean complete surrender to social regulations. He does not conform on a blind, irrational basis, but blends observance of the social rules and regulations into his own style of living.

Immaturity in social *realism* is reflected in an overdependence on society and excessive conformity. Reality becomes sidetracked through the distortions produced by overdependence and associated defense mechanisms (10). The individual who cannot face social realities tends to use defense mechanisms that distort those experiences from which he might profit. He tends to waive the results of reality testing by denying or covering up undesirable motives, substituting fantasy for reality, taking the wishes and desires of others that seem welcome as his own, blaming others

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for his deficiencies. The pupil who is taught to recognize his defense mechanisms can be helped toward more effective reality testing and consequently good adjustment.

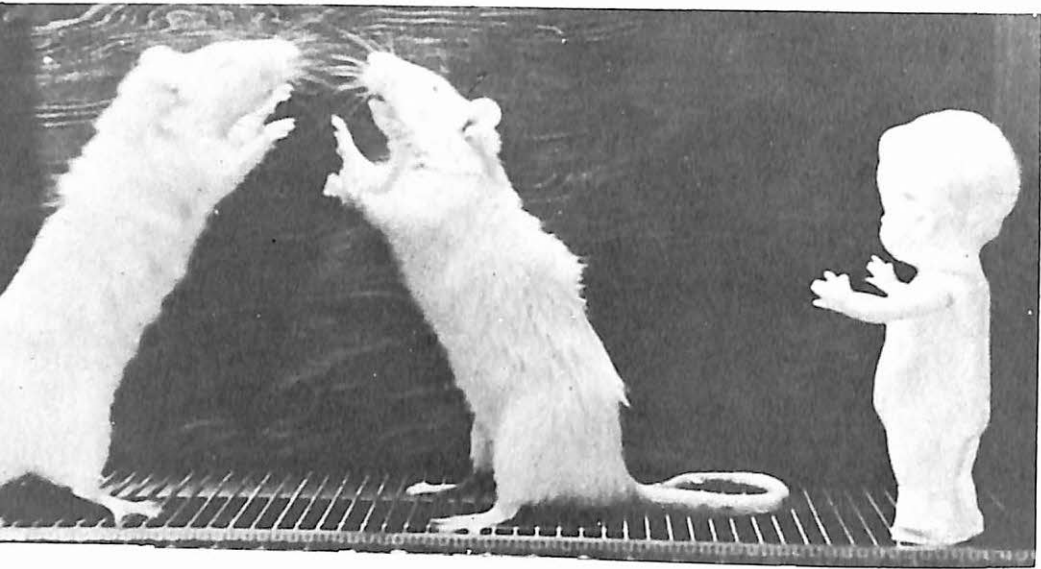
Distortions of social reality can be corrected

Reality distortions in the form of the defense mechanisms are directed at the reduction of anxiety and its betrayal, through the various symptoms rather than at the removal of the original causes of the problem. Although all people distort their perceptions to some extent, a few are almost totally "blind" to the socially "real" world. The individual who cannot distinguish fantasy (daydreaming) from the real world is no longer capable of evaluating the results of his experience. Although such a case is an extreme one, other distortions like prejudice and displacement reflect a milder departure from social reality.

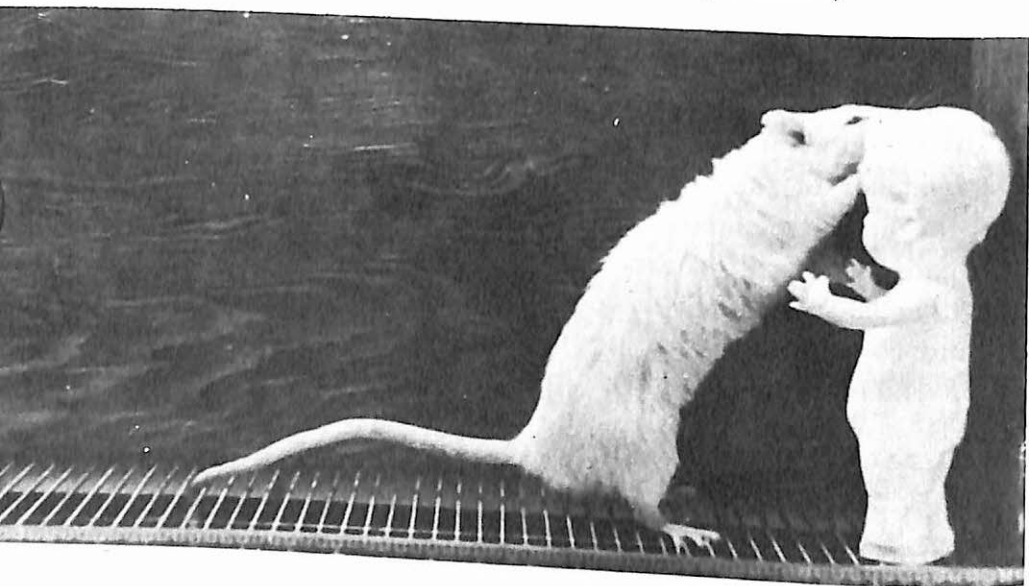
Evidence that these defense mechanisms are learned is provided by Miller (13). Pairs of rats were trained to attack one another as soon as electric shock was applied to the grid on which they were standing. When the animals were striking vigorously, the shock was turned off. This served as a reinforcement of the striking activity. When one of the two animals was replaced by a celluloid doll, the remaining animal struck at the doll. The rats' behaviors are shown in accompanying pictures.

The behavior of the animal with respect to the doll is an example of the defense mechanism of displacement. This mechanism is highly similar to the process of stimulus generalization described in Chapter 13. The doll, with characteristics of size, shape, and color similar to those of the other animal, was the most convenient object for attack in the absence of the second animal. Displacement often replaces rational attempts to solve a problem. If we do not like some action of a neighbor, we may mistreat his dog. If a child is angry at his friend's mother for not permitting the friend to play with him, he may aggressively tease his younger sister.

Maladjustive behaviors such as displacement and fantasy may prevent the pupil from learning the more adjustive behaviors. They occupy his time, leaving no opportunity for the learning of



Striking displaced from other rat to doll. When two rats were placed in an apparatus with an electric grid along with the doll, they struck at each other as soon as the electric shock was turned on. When they were placed on the apparatus one at a time, they struck at the doll. (From N. E. Miller. Theory and experiment relating to psychoanalytic displacement to stimulus-response generalization. *J. abnorm. soc. Psychol.*, 1948, 43. P. 157. With permission.)



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more directly satisfying behaviors. Or his maladjustive behaviors may be reinforced by parental attention, sympathy, and protection.

Fortunately, most of the training that pupils receive in our culture is against the use of defense mechanisms. Youth are trained to give consideration to all details. They are rewarded for making accurate judgments about their experiences. They also learn that their reports must correspond to those of others. Even at a very early age, the child is told that there is a difference between his dreams and reality and that he cannot solve problems by "sitting and dreaming." These experiences protect the pupil in the long run from fantasy delusion and hallucinations. Training in being fair, in not blaming others for something which is one's own fault, in not "squealing" or "tattling" tends to protect the individual from rationalization, projection and displacement.²

Such training when left to informal controls is often imperfect. Pupils who have a poor sense of reality *do* appear in the classroom. When reality distortions are noted, the skillful teacher guides the pupil to a point where he can refocus one or more of his key perceptions of social reality. John Dollard and Neal Miller of Yale University illustrate the details of this process with the illustration of a boy who teased his sister because his friend's mother said her son could not go camping (5). The boy could first be shown the reason for his behavior. He could be shown that when his goals were blocked, he was aroused to anger, that the more he thought about it, the more angry he became; that he gave in to a primitive impulse to take his anger out on a convenient nearby object, in this instance his sister. The boy could then be shown that restraint was required and that it was not fair to punish his sister who, in reality, had nothing to do with his problem. Leaving the boy at this point may help to teach him restraint but fail to solve his original problem. He might then be brought to see that there are alternative solutions. First, there may be other boys with whom he could go camping. Secondly, there may be alternative activities. Maybe he had been wanting

² The illustrations and discussion in this section are drawn from J. Dollard and N. E. Miller. *Personality and psychotherapy*. New York: McGraw-Hill Book Co., 1950. With permission of author and publisher.

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to get his stamp collection in order. Or perhaps he could complete his chores today so that he could play softball tomorrow. Thus, the pupil is not just restrained from giving vent to his feelings because he fears the reactions of others, but is helped to understand his feelings and how to handle them.

Very often, a simple reorientation may be all that is needed. If a pupil is generally hostile and easily provoked by small irritations, he may be guided to the point where he can see that it is some inadequacy in himself which is the cause of the provocation. He may be helped to understand the reasons for his inadequacy, how he may correct it, or how he may interpret it against the full complement of his many strengths. If he feels that his friends are turning against him, or if he continually blames others, he may be shown that the reasons may lie within himself and his behavior tendencies.

Pupils can learn to reduce their use of defense mechanisms by these procedures. When they understand their motives and goals, they are in a better position to cope with anxiety. Pupils must learn to postpone immediate satisfactions, to tolerate frustration, and to alter their goals. The process of promoting these behaviors is a slow one. The teacher must proceed cautiously with unobtrusive guidance rather than direct instruction.

Distortion of social reality in delinquency

Both environmental factors and personal problems contribute to delinquent behavior. Relationships (not necessarily causal) have been found between delinquency and adverse conditions such as slum areas. Others have been found which seem to be the product of unfortunate family conditions including rejection by parents, sibling rivalry, and the like. Still others seem to be related to inherited characteristics including physical anomalies, extreme body types, or poor health. In view of these many factors it is never possible to isolate a single cause for a given "type" of delinquency. However, it is helpful to recognize that the "kinds" of delinquents do parallel to some extent different ways of relating to society.

Some delinquents appear to have stopped growing at an im-

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mature stage of personality and character development (3, 12). They are characterized by self-centeredness. It seems likely that such individuals fail to foresee the consequences of their behavior, which may include violence toward others. More frequently, they know that their actions will injure others and they do not seem to care. Such delinquents appear to strive toward the unhealthy goal of self-satisfaction at the expense of others, and in defiance of the values of society. They appear unable, or unwilling, to comprehend social reality. These individuals do not have the capacity to maintain satisfactory and mutually profitable relationships with others.

A most common kind of delinquent behavior, reflecting distorted social realities, manifests itself in the pupil's relationships with authority figures (11). The family and the social agencies (school, church, and so on) are normally instrumental in teaching pupils how to relate themselves to authority. Normally a pupil recognizes that he must be protected by those more powerful than he during the period when he is unable to take care of himself. He recognizes that as he matures he becomes less and less dependent upon those older and stronger than he and that he can now begin to take care of himself. However, during the period of growing up the boy (or girl) may suffer severe frustrations from oppressive authoritarianism, the deprivations of poverty-stricken homes, his own inability to achieve satisfactions in the face of demands by peers and adults, and his failure to win love and approval from his parents. Some may submit to bad treatment with a sense of crushing wretchedness. Others react by regarding society (authority) as their natural enemy. Delinquency provides the means by which a kind of status can be achieved and a retaliatory outlet against a society which makes him feel inferior, miserable, and resentful (4). Jean, as described by L. R. Young,³ was just this kind of a person:

She was 15 years old and the court designated her a delinquent. Young as she was she had defied adults and their rules. She had

³ From L. R. Young. *Delinquency from the child's viewpoint*. In C. B. Vedder (Ed.), *The juvenile offender*. New York: Doubleday, 1954. P. 62. Reprinted by permission of Random House, Inc.

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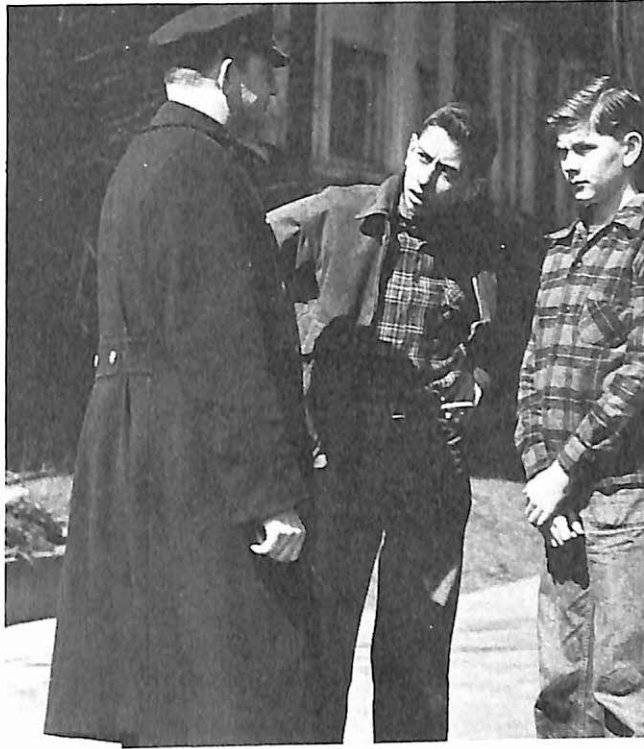
gone her own way, angry and violent, running away from home, spending her nights at dubious clubs and dance halls, stealing now and then, recklessly inviting trouble from strange men who saw in her youth and defiance an invitation and an opportunity for exploitation.

Attitudes toward the authority of parents, teachers, policemen, and so on are important for the development and establishment of the individual's place in society. To pupils like Jean, authority is not recognized as something which will be replaced later as one's own capacities and abilities mature and after supervision is no longer required for their protection. Rather it is viewed as an interference with their enjoyment, as a frustrating impediment to life as they want to live it.

During periods of severe frustration these pupils may turn to hostile or otherwise aggressive behaviors, such as truancy, which brings partial relief from tension (16). Following such episodes there may be an opportunity for wise teachers to help the child reappraise his position, to guide him toward more acceptable behaviors, and to help him choose more appropriate goals. Such exhibitions of hostile behavior in boys and girls can be prevented or treated by a considerate and kind person whom they trust and with whom they can identify.

Contrasted with the rebels against conformity, there are some delinquents who have not learned right from wrong. Some children are faced with cultural conflicts within the home. These conflicts are heightened by differences in language and values between generations. In his search for identification with some consistent culture, or group, the pupil may find his way to a delinquent gang who can provide him with his requirements for social "belongingness" and if not recreation, at least an outlet for his energies. Fundamentally, these boys and girls are sociable individuals. Thrasher has described the products of reality testing by a boy who joined a gang of this type: "This individual finds that acquiring a court record, being put away in an institution give the delinquent prestige in the gang. In these cases society is simply promoting his rise to power, rather than reforming or punishing him" (18, p. 332). Others may start out stealing just

Hostile behavior may be rebellion against authority or a symbol of the need for independence. What other causes may lead to behavior similar to that depicted?



as a form of “fun” without intent to get anything from it. Later, naturally the individual learns to steal for gain. Most times such boys and girls have a potentiality for fitting into any group—nondelinquent as well as delinquent. By imitation and conformity to the values of the gang they learn the patterns of delinquency.

Some success at changing the reality distortions of delinquents in such gangs toward more socially accepted behavior has been achieved by social workers. The latter may in disguise make his way into the midst of the gang activities and their hang-outs. He slowly gains the confidence of the boys and bides his time until he is accepted. A social worker provides this example:⁴ “When one of the boys would ask if he got the cigarette from the director, frequently the answer would be, ‘Yeah, Man. He is a citizen,’ or by the statement, ‘No man, he ain’t no cop . . . we cased him!’”

As time progresses opportunities for civic responsibilities may be gradually introduced. The boys plan recreational activities, community “clean-up” projects, and the like. Eventually, there is

⁴ From J. R. Dumpson. An approach to antisocial street gangs. In C. B. Veder (Ed.), *The juvenile offender*. New York: Doubleday, 1954. P. 164. Reprinted by permission of Random House, Inc.

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a spirit of co-operation between the boys and the community. There is a noticeable change in the self-concept of the boys for they feel that they are "somebody" and can make a contribution to the community.

Prejudices feed on distortions of social reality

Prejudices develop in many ways. Sometimes they are anchored in the social reality of the principal group of which the pupil is a member. The term social reality is used here to mean that a significant number of people in the group, whether community, country club, or delinquent gang, have the same attitude (9).

[These can be important motivators for attaining a dominant prejudice as illustrated by] the white youngster⁵ who, in rural Mississippi, may begin life on very favorable terms with his Negro playmates. Still, as he matures, his adjustment to and acceptance by the white community depend in some measure upon the extent to which he has come to share the prevalent anti-Negro biases. If he rejected these biases, he might be vulnerable to social ostracism and even more severe manifestations of disapproval.

More familiar as prejudices are the attitudes of intolerance associated with feelings of hostility and aggression, sometimes bearing the marks of maliciousness. These are the attitudes possessed by pupils who may be living under conditions similar to those described under the etiology of delinquency—i.e., economic or social frustration. The feelings of insecurity arising under these circumstances may be experienced *for example* by some families who are seeking success (social prominence, rapid promotions, material possessions) but who may not find the road upward as smooth as they would like it to be. Such families may seek out other groups as targets for the aggression generated by their frustrations. They may describe other groups as inferior—"they are dirty, stupid and crude" and as threatening—"they are trying to run this town" or "they are to blame for my not being promoted." Such attitudes will be immediately recognized as gross

⁵ From I. Sarnoff and D. Katz. The motivational bases of attitude change, *J. abnorm. soc. Psychol.*, 1954, 49, 115-124. P. 117. With permission of author and publisher.

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distortions of social reality. The group on which the blame is placed is often frequently weaker than the individuals who feel threatened!

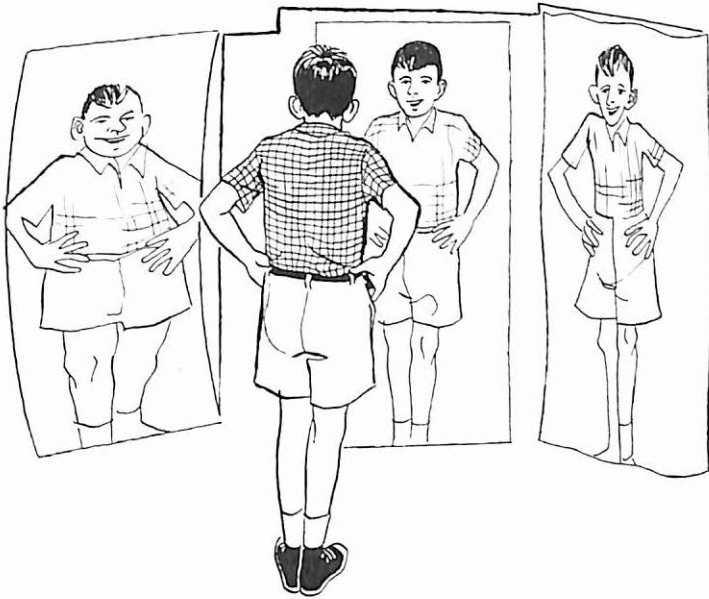


FIGURE 20-2. The distortion of perception at the amusement park is easily recognized and taken good-naturedly. The consequences of prejudice and bias are much more subtle, leading to distortions of social reality that go unrecognized by the pupil.

Prejudices of this nature involve an "either-or," "all-or-none" type of perception. When reinforced sufficiently, they produce more and more distortion. A single characteristic stands out and is attributed to each and every member of the group as well as to other groups with similar characteristics. These distortions are difficult to change because of the individual's many defenses. If the prejudiced pupil visits the community where the out-group lives, he may tend to notice only its unfavorable or "different" characteristics. He may notice an unpainted house, a neglected lawn, or a person with distinctively different features. Typical comments may follow, "Just as I thought, they can't take care of their things!" and "See, they all look alike—strange and foreign!" When he hears bits of favorable evidence about the group he may develop a negative attitude and appear not to hear the favorable



A third-grade class watches a pupil enact the Feast of Hanukkah. Pupils have a greater appreciation for members of another religious group when they understand the backgrounds and customs involved in the ceremonies.

arguments or he may label the evidence as indications of deception. He might say, "They never do anything worthwhile intentionally. If they did something for others it was purely by accident and they are getting all the credit for it," or "They must have done it for some (suspicious) reason. They must be trying to get something or he must be trying to hide something." All of these are forms of distortions which maintain a prevailing unfavorable attitude. They are the distortions on which prejudices feed (1).

Helping pupils learn tolerance

Pupils can learn to be tolerant (2). They can be helped to understand the nature of group differences, that all individuals within a group are not alike. They can be helped to see the rich values and the broader meanings of race by experience with customs of people with varying ethnic backgrounds. Children within the classroom provide an excellent source of information and understanding. These experiences may be coupled with participation in the activities of these cultures—exhibits, festivities, and

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religion—to provide deeper understanding. On the basis of these experiences, children can be given the opportunities to talk about their experiences. They can be guided toward precise meanings rather than fallacious stereotypes, labels, and overgeneralizations by objective summaries of their experiences.

Pupils may also be helped to understand the causes of prejudices. Even the young pupil can be helped to understand the scapegoating mechanism as a form of displacement or projection of one's own inadequacies. Most pupils can understand that a trait attributed to an ethnic group may frequently be the expression of prejudice seeking a victim. They may be brought to understand that the uncertainty, the insecurity under which some minority groups live may give rise to tensions and defensiveness which lead to undesirable behavior.

Gordon W. Allport⁶ points out:

[This] is a delicate lesson to teach. The danger lies in creating a stereotype to the effect that *all* Jews are ambitious and aggressive in order to compensate for their handicaps; or that all Negroes are inclined to sullen hate or petty thievery. The lesson can, however, be taught without primary reference to minority groups. It is essentially a lesson in mental hygiene. Through fiction, to start with, a youngster may learn of the compensations a handicapped (perhaps crippled) child develops. He may go from that point to a discussion of hypothetical cases in class. Through role-playing he may gain insight into the operation of ego defenses. By the age of fourteen the adolescent may be led to see that his own insecurity is due to his lack of firm ground: he is sometimes expected to act like a child, sometimes like an adult. He wants to be an adult, but the conduct of others makes him unsure of whether he belongs to the world of childhood or of adulthood. The teacher may point out that the predicament of the adolescent resembles the permanent uncertainty under which many minority groups have to live. Like adolescents, they sometimes show restlessness, tension, ego defensiveness, which occasionally lead to objectionable behavior. It is far better for the young person to learn the grounds for ego-defensive behavior than for him to be left with the idea that objectionable traits are inherent in certain groups of mankind.

⁶ From G. W. Allport. *The nature of prejudice*. Addison-Wesley Publishing Co., Inc., Reading, Mass., 1954. Pp. 512-513. With permission of author and publisher.

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The teacher can help in preventing and overcoming unreasonable prejudices. However, she should be cautious, as this is an area for experts. At times she may be uncertain about her ability to handle these problems. At other times certain attitudes with which she does not agree may exist in the community. Perhaps a *general* rule-of-thumb approach under these conditions is to work very gently and inconspicuously against these attitudes. Where a change would be desirable she can often work "behind the scenes" by the use of techniques such as glamorizing, debate, and group discussion, in addition to those discussed above, always recognizing that her attempts might not be successful and will generally be slow in producing results.

A broad perspective of social reality

In learning to adapt to the realities of social interaction, the pupil is faced with the task of learning how to get along with others. As he moves out of the self-centered stage, he grows toward a realization of the importance of others. There is an emerging recognition that the benefits of society are far better than social isolation and that he must necessarily side with its requirements. He learns to accept the social mores and values. Authority is recognized as clearly representing the best interests of society. These are all important advances in the process of socialization.

The teacher may well encourage the pupil to think in terms of these questions: How are my actions likely to influence others? Are my actions likely to have long-range or only temporary satisfactions? Are they consistent with accepted behavior? If not, in what way are they incompatible with the social values? Why? What are the advantages of conformity? Are there times when conformity is not to my advantage? As self-insight is increased, the pupil should be better able to handle new situations in ways that are consistent with social reality.

Prejudice is an indication of a distorted view of social reality. Sometimes the completely irrelevant characteristics of some individuals such as dress and mannerisms may be used as a basis for ostracizing them from membership in social groups or positions of merit. Reality testing here requires that the pupil learn, by

Learning to understand others. Richard is playing the role of an empathic listener. Sarah is relating in detail an important family experience. Richard listens and tries to understand. (By permission from *The teacher and the child*, by C. E. Moustakas. 1956. McGraw-Hill Book Co., Inc.)



thoughtful appraisal, the contributions and privileges of all members of the community, including himself. For example, he can learn for himself that everyone benefits when people are selected for class officers, a ball club, or an official post on the basis of the "best man" for the position. This is accomplished by teaching the pupil to recognize that neither the best nor the worst qualities of the individual apply to all situations. Selection of the "best" person can be made realistically only by correlating their qualities and characteristics with the requirements of the task to be done.

The teacher may broaden the social perspective of her pupils by her wider experience. She can show them that the social customs and beliefs of their community are not universal and that many people live happily with quite different interpretations of social reality. These variations may exist in relatively trivial customs such as how to hold one's fork, form of greeting, or attitudes about work, people, and ethics. Cultural differences are not restricted to those between primitive and complex societies. Similar, although usually more subtle, differences exist within the same society and within subgroups of a small community.

An appraisal of such customs and beliefs will help the pupil

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learn tolerance for the views of others, a concern for others, and a respect for their different ways of living. The pupil can also be guided toward a greater flexibility in his own adaptations. Through helping the pupil master the expectations and requirements of his society and helping him appreciate the benefits to be derived from that society, the teacher can contribute to the pupil's feeling of self-esteem. He will gradually gain a type of self-confidence that can be derived only from the awareness that his own way of adaptation to others is consistent with the expectations of his associates yet in harmony with his own personal values (7).

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*Personal Strivings:
Influencing Pupil Goals
and Styles of Living*

"A MAN'S REACH should exceed his grasp, or what's a heaven for?" said Browning when he made the point that one's aspirations should always exceed one's present accomplishments. Each person needs to do his bit to improve the well-being of himself, his friends, and his society.

It seems natural for man to try to improve his lot by conquest over natural phenomena and by amelioration of conditions in a troubled world. By way of illustrations we think of Jane Addams' community projects in slum areas, efforts that initiated the social-work movement; Einstein's conquests in unveiling the secrets of the atom; George Washington Carver's promise of opportunity for the Negro and his contributions to science and education from which all mankind has benefited; Albert Schweitzer's pioneer efforts to introduce medical care into Central Africa. The annals of history are full of the accounts of great men and women who have been unwilling to accept evil and ignorance in all their forms—bigotry and prejudice, disease and poverty.

It is not to be expected, of course, that all pupils should aspire to such lofty goals. Not everyone has the necessary talents, ambition, and perseverance. To the guidance counselor it sometimes seems that all pupils want to be eminent doctors, statesmen, or scientists. In many cases these aims are realistic. In others, they

may be merely a way of testing reality. In still others, they are altogether unrealistic. The individual's goals provide him with objectives toward which he can work and strive with spontaneity and enthusiasm. Without definite goals the pupil lacks direction and motivation. On the other hand, the goals must also be realistic if the pupil is to make the most of his potentialities and if he is to capitalize on opportunities afforded him. This is the nature of striving behavior.

Our aim in this chapter is to point out that the teacher can adopt a positive approach to the encouragement of striving. When the pupil is oriented toward achievement as a way of expressing himself, as a way of contributing to the welfare of others, or as a way of promoting his own growth, striving promotes feelings of self-esteem, a sense of kinship with others and integration with social reality (6). Each pupil can, and must, be guided to see that the present provides a base from which he can advance into a better future, one in which he is destined to play a significant role.

The nature of striving

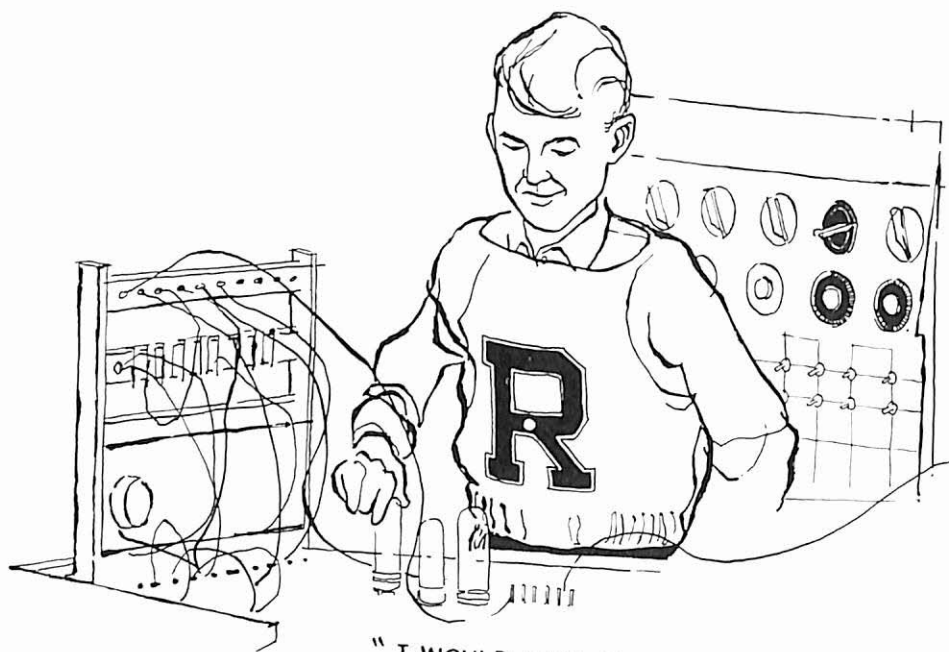
Psychological adjustment is a dynamic process. Striving toward goals requires a continuous adaptation to the physical and social environment. The pupil is being modified by his environment and its demands. In turn he also learns to alter the environment so that he is more able to satisfy his needs. The analysis of striving by Smith, Bruner, and White (13) which is described in what follows will be helpful in understanding this aspect of adjustment.

Striving is *constructive*. The pupil who tries to reach his goals is constantly learning. New responses are acquired. His activities are directed toward those objectives that will enhance his well-being. Whatever is accomplished contributes to his *personal* growth. Humans, in general, learn new techniques for handling and modifying their environment. They become curious, they investigate, they learn new ways of communication, they invent, and they produce new products.

Striving also may be aimed toward personal defense, frequently

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as a compensatory mechanism, to protect ourselves against those things that tend to interfere with the satisfactions of our needs, particularly of our self-esteem. In a very real sense achievement can be a protection against events that produce anxiety. Aiming for high goals helps to make up for some real or imagined deficiency in ability, capacity, or other aspects of one's personality.



"I WOULD LIKE TO BE A SCIENTIST."

FIGURE 21-1. Constructive striving. The effort of the well adjusted pupil is directed toward constructive purposes.

Striving in these circumstances means that one must continually prove himself by competition, not only with others, but with himself (14). Goals set too high may result in frustration and further feelings of inadequacy. Goals set too low may result in less progress than one has the potential for. Easy accomplishment may result in unwarranted feelings of "self-congratulation."

The delicate balance that must be maintained between our needs and our environment and the interplay between constructive and defensive striving is illustrated in the following excerpt

from a sketch of John Chatwell, a subject studied by Smith, Bruner, and White.¹

The strivings that received the strongest impetus from Chatwell's parents were those associated with growing up and being mature. The pressure was in the direction of self-sufficiency and independent accomplishment, with emphasis also on investigation and discussion. The values of gregariousness were less stressed; in fact, there was some shielding from early contact with children of lower social status. Definitely discouraged were the dependent tendencies: the needs for loving care, comfort in distress, guidance, help in overcoming anxieties. These remained as residual tensions in a personality organized along lines of independent achievement.

The predominant pattern of strivings received further significant shaping as Chatwell tried out his capacities and skills and learned the channels that would lead him to satisfaction. One of the channels he entered was football, but his light weight and fear of injury prevented this from being a real source of gratification. Another channel was argument, and here the gratification was so high that the love of argument became one of the strongest driving forces in his personality. The assertiveness that could not succeed in athletic channels found in discussion and debate an admirable route toward its goals. In a sophomore story-completion Chatwell symbolized this phase of his own development. Given the plot that a football player was not equalling his famous father on the grid-iron, Chatwell had the boy realize that he would never be a good player, but then come to feel that the whole sport was organized wrong; so he 'suddenly threw himself wholeheartedly into modifying the system, and found that he had just the qualifications for doing this successfully.' Politics, persuasion, and human management increasingly appealed to him. In such a role Chatwell won his school success; for the lack of it he was at loose ends in college; resuming it again, he achieved success and rapid advancement in military service.

The pupil's immediate and long-range objectives

Goals toward which pupils strive, and toward which their behavior is directed may be grossly classified as *long-range* and *immediate* (14). The long-range goals sought by the pupil hold the promise or expectation of meeting his needs or otherwise con-

¹ Reprinted with permission from M. B. Smith, J. S. Bruner, and R. W. White. *Opinions and personality*. New York: John Wiley and Sons, Inc., 1956. Pp. 98-99.

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tributing to his self-enhancement. They provide relatively stable ends, however distant in the future, toward which the pupil's activity can be directed, providing stability to his behavior.



FIGURE 21-2. Defensive striving. This pupil's aim is toward proving his worth to himself and others rather than to more enduring life goals.

The immediate goals may be ends in themselves as is often the case with recreational activity when pupils engage in games and sports for the immediate satisfactions that are derived from play. These goals may also function as *action* goals and are highly desirable for all activity since each is a step toward those more remote. This role may be illustrated in vocational choice. The pupil whose goal is to be a physicist finds that there are many prior requirements. He must have an interest in this vocation, he must have the capacities it requires, but in addition, he will have to take mathematics and physics in high school. In college, he will pursue a college curriculum that is both technical and broadening. Somewhere, in his program he will be required to have practical work or field experience similar to that of an apprentice. Each of these represents an immediate goal which not only provides a basis for action but contributes to his satisfaction in working toward his vocational objective.



Long-range goals must also involve action goals. Sam wants to be a journalist. In holding the editor's job he is working toward that long-range goal while attaining many immediate goals such as independence, peer approval, and achievement.

It is easy to see that goals are personal and must be recognized as such by the teacher. From a motivational standpoint, everything that the pupil sees as contributing to his major objectives will be of interest and will be pursued diligently. If a course or activity has no such meaning then there will be resignation to the extent that he will do only that which is necessary "to get by" or "to meet requirements." From a mental-health standpoint, goals provide purpose to the pupil's behavior and provide him with guides for action.

Pupils do not have only a single goal toward which they work. Rather there are many which function in his behavior at any one time. There are the vocational, the social, and the broad ideological goals, all of which can be pursued concomitantly. Each of these invariably has some influence on the others. The degree to which these goals are integrated defines a "well-rounded" individual.

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Socialization and striving

In one widely known experiment (5) it was shown that more pupils who experienced success in a previous task raised their level of aspiration than did those who experienced failure. In addition, the number of changes in the direction of a raised level of aspiration was directly related to the feelings of success they experienced. These results are clearly visible in the Figure 21-3. You may recall from Chapter 12 on motivation that pupils who have had many successes in an area will set higher goals, but they will usually be realistic, i.e., capable of being attained. Pupils who had previous experiences of failure set goals unrealistically high or low. The level at which goals are set varies in terms of the specific experiences in an area; pupils who experience success in arithmetic set realistically high goals in arithmetic and those who experience failure, unrealistically high or low goals.

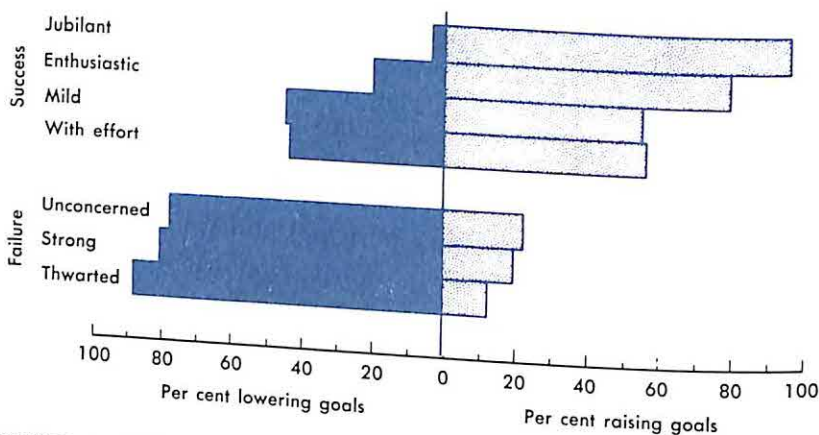


FIGURE 21-3. The effects success-failure experiences and associated feelings are reflected in aspirational level. (After K. Lewin, *et al.* Level of aspiration. In J. McV. Hunt (Ed.), *Personality and the behavior disorders*. Vol. 1. The Ronald Press Co., 1944. P. 338.)

A study of the mothers of sons with high achievement contrasted with those of sons with low achievement orientation has been made by Winterbottom (15). In her investigation it was found that in the former group the mothers made more demands and restrictions up to the time the children were 7 years of age than did the mothers of the latter group. After age 8 the reverse

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was true. These facts are shown in Figure 21-4. The kinds of demands in respect to which the mothers differ are those which encourage the child to be independent. Mothers of sons with high striving orientation direct their demands in a way which

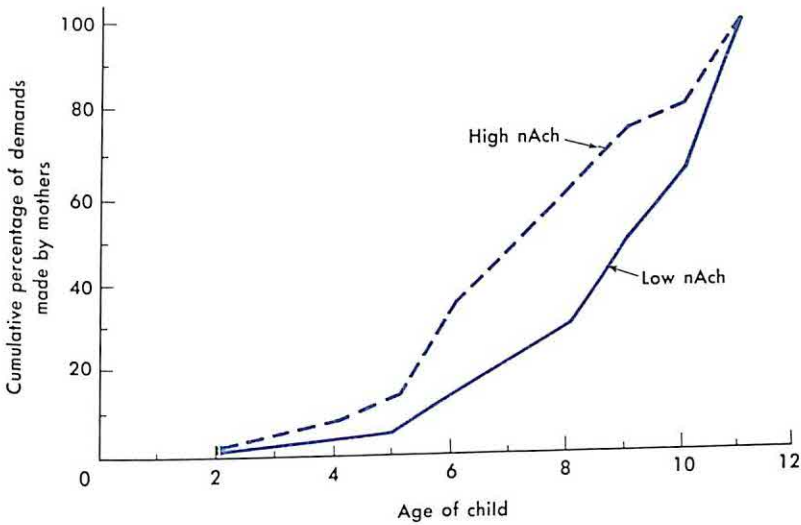


FIGURE 21-4. Cumulative curves showing proportions of total demands reported by mothers of children scoring high and low on achievement need. Although the total number of demands, at age 11, is the same for both groups, the demands by the mothers are made at an earlier age for the high-need achievement group than for the low-need achievement group. (From D. C. McClelland. *The achievement motive*. Appleton-Century-Crofts, Inc., 1953. P. 300. With permission.)

will encourage the child to be independent. For example, they wanted their children to know their way around the city, to try new things for themselves, to do well in competition, and to make their own friends. These mothers used physical affection such as kissing and hugging as rewards for achieving. Their orientation took into consideration the child's needs and provided him with the security needed in his exploratory efforts rather than considering only their own convenience.

There are innumerable factors in the socialization process, other than parental behavior, which encourage striving. As the child enters school, he is immediately confronted with a system based on the policies of age grading and promotion. Here he is



Accelerating homes teach children independence in early childhood and encourage achievement orientations.

rewarded for high levels of aspiration and is penalized if he accepts the status quo and does no more than he has to. The same process is at work in his social relations, particularly if he comes from those with middle status in society. Approval is given for moving up the social ladder. He is also taught to be aggressive in socially approved ways, such as by being ambitious and showing initiative. The kinds of achievement for which reward is expected may vary—promotion in school, moving up to a better position in an occupation, moving upward in social position. Rewards also vary—social approval, status, economic security. Through these socializing experiences the individual becomes committed to goal strivings. As Baldwin indicates, the pupil adopts the social concepts that goals fall along some kind of a continuum from low to high, that “high” goals are more difficult than “low” ones, and that the more difficult ones represent greater achievement (2).

From the viewpoint of mental health, it seems desirable that the pupil feel challenged in many things without feeling overcome by a sense of what is impossible. Individuals who are not doing their best can be helped to seek an appropriate level for their ability and still be motivated to do better.

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Learning to strive through identification

Pupils learn many social roles by imitating the behavior of others. Individuals believed to be successful in some way are selected as figures with whom they consciously or unconsciously identify. It may be a movie star, a parent, business man, teacher, or other highly regarded person. Through imitation the pupil selects preferred goals and behaviors which bear promise for helping him reach these goals. The person imitated often represents an idealized version of the personality goal he hopes to reach. Some pupils decide to become doctors because they identify with their fathers who are doctors. It is not difficult to see why the coach is frequently a popular figure in most high schools. When a model is found to have "clay feet" pupils will shift their identification to other models who they perceive are more adequate and successful (9, 10).



FIGURE 21-5. Much of the pupil's behavior is influenced by the imitation of models for each of several roles.

The classroom teacher often becomes a figure with whom the child identifies for many different social roles. Every parent of an elementary school child has experienced the rebuttal, "The teacher says it is so!"—and the parent finds himself taking second

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The teacher may serve as a standard by which pupils set their goals. Pupils may imitate the teacher's behavior if it is perceived as successful for a particular role just as they may imitate the behavior of *any* other person with whom they come in contact. However, it is not the intent to imply, as was once erroneously believed, that the teacher herself should be a model of everything good in personal living. It used to be the case that parents functioning under this assumption frequently tried, to the teacher's great distress, to force her into this uncomfortable and unrealistic pattern. Fortunately, this concept of the teacher's role is disappearing.

The teacher provides inspirational models

Through the use of textbooks, story telling, movies, and television pupils can be influenced in a significant way by the great men and women of recorded history, prominent figures of our own day, and of course by the everyday person. These sources are too often viewed by parents and teachers alike merely as media for presenting "facts" that the pupil must learn. That pupils acquire many opinions, attitudes, predispositions, and values by these means is frequently overlooked. History, literature, social studies, and science contain elements which can be the basis for the formation of long-range objectives aimed at successful societal adaptation. The pupil can be provided with many examples of behaviors previously tested in the culture and proven to be successful variants of social requirements. Pupils can also be made aware of their own personal errors from knowledge of the past so that they may profit vicariously from such mistakes.

A variety of models in the world of ideas is provided the pupil when he learns about men like Einstein with their systematic, orderly striving and aims, with the hard-working, not so systematic but successfully pragmatic men like Ford and Edison, and, with the creative geniuses in the fine arts like Picasso and Beethoven.

To have an effect upon the average child the less distinguished person must also be dramatized. Pupils may find it difficult to identify with the various types of personalities described in text-

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books. However, they can, and will, identify with the boys and girls, men and women, whom they know in everyday life. The usual occupations and the commonplace roles can be presented as providing opportunities and ways for making a better world for one's self, for one's friends and for society. For the girls in the classroom there is a need for a departure from the traditional textbook presentation portraying womankind as sociable, kind, and timid, but lacking the potentiality for great achievement (4). A reorientation is required that will help the girl, who in the future may be required to make her own living, to benefit from the same influences as the boys in the development of motives to work and achieve.

All of the classroom methods and materials have a potentiality for glamorizing the successful citizen. Through these means the pupil may be taught important lessons in structuring their aims and values and finding ways of achieving these ends.

The pupil's style of living

Psychological adjustment does not necessarily involve the passive acceptance of one's society, as is so often believed. This point cannot be emphasized more strongly than it is in the development toward maturity. In proceeding from one level to the next in his growth toward maturity, the pupil varies his mode of adapting to challenges with different styles of living. Some pupils have characteristic strivings aimed solely at self-satisfaction, some may be interested only in complying with the demands of others. Some immature pupils live by a set of abstract principles, applied rigidly to each and every situation, while the mature pupil is guided by a rationality of purpose, including a feeling of responsibility for the progress of himself and others.

A number of psychologists have analyzed the dimensions of growth toward maturity and the typical adjustment problems of the school years. Robert F. Peck³ has an interesting approach, the one on which the following discussion is based. The reader should, of course, recognize that this is only one of a number of

³ Adapted from R. F. Peck. *The psychology of moral character*. Ph.D. dissertation, Univer. of Chicago, 1951. With permission of the author.

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schemes that might be used for a classification of the modes of adjustment made by the maturing pupil.

The younger pupil in the early elementary grades exhibits behavior which is typically *self-centered*. His mode of adjustment is characteristically toward the attainment of the satisfaction of his own needs. In accomplishing this end, he may be aware of the demands of others, but he ignores them. He will act in "honest" ways, for example, to retain a favorable reputation or he will conform to the immediate situation because this behavior will help him to achieve long-range goals. If more can be gained by other means, particularly if he can avoid censure or detection, he will adopt them. Carried into the later years this style of living or personality organization is obviously not constructive. It has the major disadvantage of ignoring the harmful effects that may accrue to others if he is a self-centered person and disinterested in those about him.

Later development in the growth toward adolescence brings on the emergence of a tendency toward *conformity*. The pupil appears to be guided by one general principle—"to do what others do and what they say one 'should do'." He develops an awareness of the demands of others. The violation of some code such as truthfulness may produce a feeling of shame or guilt, not because "lying" is "wrong" and might be harmful to himself or others, but because "others say it is wrong." The approval of others is the major reward at this stage of development. The conformist accepts the dictates of his family and other social groups in a placid, uncritical way. The rules he lives by may call for kindness to some people, and cruelty to others. Since these are the social rules, he feels no responsibility or guilt. Such individuals seldom depart from prescribed rules of conduct. The *rigid* conformist may follow a prescribed set of ritualistic behaviors learned in childhood all through his lifetime. The *pliant* conformist adapts to any group he is with. His behavior depends upon the social structure he is in at any one time. The individual who is stopped at this stage of development has difficulty in setting goals of his own, because he continually bows to the requirements of others. He fails to gain a place for himself as an individual.

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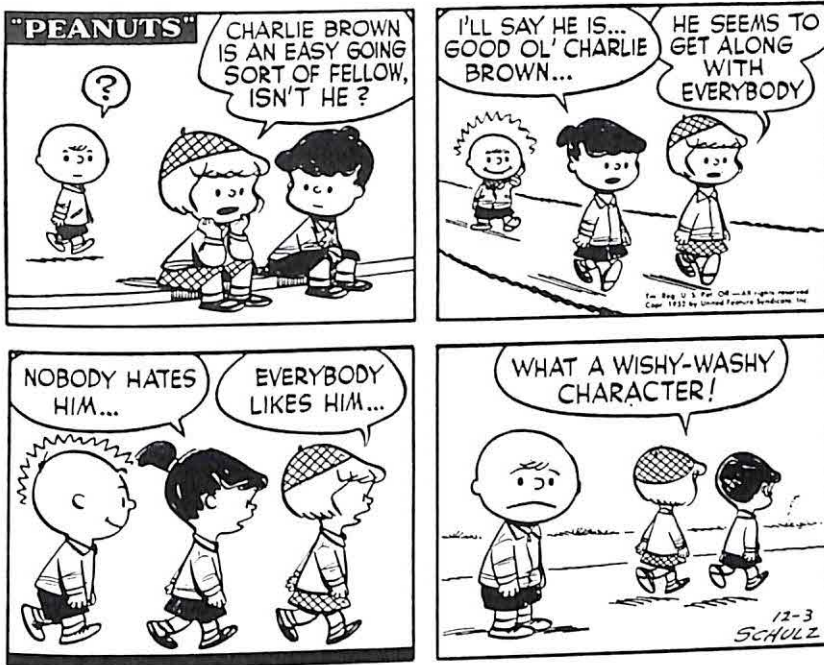


FIGURE 21-8. Extreme conformity does not necessarily lead to universal popularity.

The next stages of personal development are entered in the later adolescent years and extend into maturity. These are the socialized stages in which the individual is guided by codes and principles. The typical *irrational-abstract* person abides by a set of abstract principles. No longer is the group standard in and of itself important. Feelings of anxiety come from having violated "what one believes in." We recognize that standards of truthfulness, loyalty, neatness, honesty, and the like are important guides for living in a social world. The adjustment difficulty lies in the fact that such rules are not recognized by the irrational-abstract person as man-made expedients contrived to serve mankind in a functional way and that some give-and-take in their use is necessary on exceptional occasions. As a result this person is sometimes caught in a paradox resulting from two conflicting principles. Honesty and kindness, for example, frequently conflict if pushed too far.

Although the irrational-abstract style of living may be a

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favorable one for most situations, it is the *rational-abstract* stage in which the behaviors most characteristic of mature development are found. Here too, principles guide and direct behavior—honesty, integrity, and so on—and dependably so. However, behavior of this kind is *not* the result of a blind application of abstract principles, but rather the result of rational assessment of one's actions and their possible effect on others. There is strong interest in the welfare of others as well as of oneself. Such a person permits circumstances to alter cases. This individual's style of life allows him to develop continually, and to adapt to a variety of situations without a serious conflict of values.

The teacher is a key figure in this growth toward a mature style of living. In the curricular materials she uses, in her methods, and in her example she can guide the pupil toward seeing and understanding the rationality in the many rules and behavior guides established by society. The pupil can be encouraged at the same time to find his own identity as a worthwhile and important person, with a trust in himself and others. The classroom experiences can foster initiative and industry. The pupil can learn, in this setting, to live intimately with others without yielding to their every demand (4).

The teacher shows the way

The effective teacher is a person with knowledge who does more than teach the formal subjects of the school curriculum. She is the person who shows the way to many pupils who do not get this guidance elsewhere in their daily living. She shows the pupil that he need not necessarily relinquish his fondest aspirations for lack of opportunity. Pupils with unrealistic goals can be shown that there are other equally satisfying ways of living one's life. The result is a pupil who is mentally healthy. His strivings are sufficiently flexible to permit him to find many alternative outlets when the roads to some particular goals are blocked.

For pupils with minimally low goals there is help from the teacher who shows them how their values have been influenced by misinterpretations of past experience. The pupil with unrealistically high goals can be praised for lesser accomplishments so

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that he does not feel under continuous pressure to do better and better, beyond the limits of his abilities.

Some pupils do become discouraged and want to give up their fond aspirations because of an apparent lack of opportunity. They may feel that there are fewer opportunities today than in former years for improving their social status, of "making a million dollars" or of becoming president. Here the teacher can show the individual how many ways there are of satisfying an aspiration.

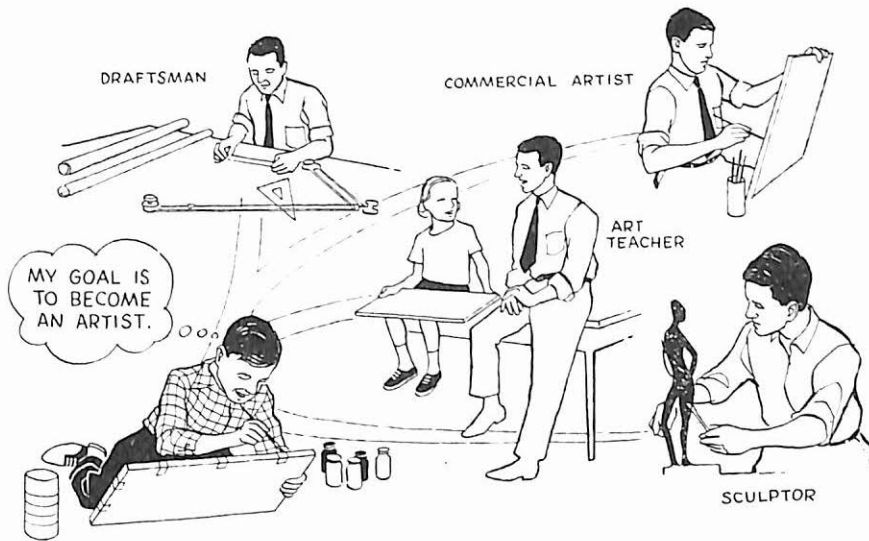


FIGURE 21-9. There are many paths to goals. If commensurate with his opportunity and ability each may be satisfying to the pupil's aspirations.

There are still means of improving one's social status, although it may be more difficult to move from one class to another. One may not be able to become a "famous" artist, but he may have the necessary abilities to become a good commercial artist, a good draftsman, or a good teacher of art. The pupil may not be able to become the "big wheel," but he can become an important member and a popular one of whatever subgroups he belongs to—provided he has learned the necessary skills. The fundamental idea here is that there are still many opportunities and ways of getting ahead. The teacher can provide a vision of the future for pupils with special talents for working and living. She can help all

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pupils adjust their vocational sights in terms of their abilities and probable opportunities.

The teacher is an important agent in the socialization process. Her duties and obligations extend beyond the mere imparting of facts, teaching of skills, punishing and rewarding social actions—they also involve a personal relationship with pupils that is unique in its emotional components. There are opportunities for friendly relationships which can be used to stimulate the child to continue his improvement and to lead him to believe that he can be successful in many activities. The accepted and respected teacher can influence individual pupils to align themselves in directions where their lives will be more effective and satisfying. She may do this by learning what the pupil's abilities and disabilities are and by helping the pupil to capitalize on them in every way possible. She can help the pupil to aspire toward and reach goals on the constructive side of life. A quotation from Adler,⁴ the famous psychoanalyst, summarizes this possibility:

Pupils must be convinced that what they have not yet achieved can readily be attained by industry, perseverance, practice and courage. One must put tasks in their way which they can accomplish and from the accomplishment of which they can gain faith in themselves.

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*Social Relations:
The Class
as a Laboratory*

MAN HAS A STRONG NEED to be in the company of others of his own kind. If this is not a basic and genetically endowed behavior characteristic, it at least makes its appearance during the very early nursing period. The need for sociality is by no means restricted to man. It is also present in many different animal groupings. Although an individual is not always aware of the needs which are satisfied by social mingling and interaction, it is known that animals reared under different environmental conditions often display strikingly dissimilar social responses. For example, it has been shown in recent studies of "imprinting" in baby chickens that they have a critical period in the early hours of life when they will accept the most available moving object as "mother." They persist thereafter in following this object "choice" even though it proves inappropriate. The chick may move towards a dog or a cat and later follow them around, all the while rejecting an anxious mother hen, if one of these animals happens to be moving nearby immediately after the chick pecks its way from the shell (13).

It seems doubtful that man has many (if any) such inflexible imprinting processes directing his socialization. However, there do seem to be periods in every culture, however primitive, where the growing boys and girls are expected to take on more mature

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patterns of behavior. Among certain primitive tribes the puberty rites are a public announcement that boys and girls are crossing the line from childhood to adult life. Parental expectations are less dramatically proclaimed in more civilized societies, but they are just as real and pronounced in importance.

Every society has ways and means of guiding its youth toward social maturity. Among the less civilized tribes there are social rules, totems, and taboos which are transmitted from generation to generation by legends, picture language, and parental actions patterned after the tribe's mores and folkways. In the early colonial and frontier days of the American culture, when the land was sparsely settled, the social rules were transmitted largely from father to son and mother to daughter, with help from the church when one was nearby. Today there are many institutions besides the family which help to promote the socialization of boys and girls—the church, the youth clubs, the supervised playgrounds, the summer camps, and the public and private schools. As the years have gone by in the relatively short history of our free elementary and secondary schools for “all the children of all the people,” parents have become more and more dependent on the school program for the socialization of their children. This dependence on the school is reflected in many different ways.

If there is an upsurge in juvenile delinquency the school invariably comes in for a substantial share of the parental and editorial criticism. Instruction in many of the functions of our democratic form of government, such as how to vote and protect one's rights and privileges within the courts of law, is almost completely relegated to the school. Parents expect their children to learn such social lessons as co-operation and teamwork within the schools.

There is also some evidence that American parents (at least as contrasted with British) require their children to be extremely well adjusted when interacting with other children (5). Their emphasis on this aspect of socialization is reflected in comments showing that they approve of their children's “being able to play together in harmony with other children” and “being well-adapted to his own age group.” “The American pattern aims at a

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interpersonal response. That is, no one can be short-changed in the process and the rules of interaction must be understood and accepted by each participant. Few of children's social interactions satisfy this idealistic goal of social harmony. The needs of some boy or girl are often ignored, some individual becomes the scapegoat of another's hostility and aggression, or the rules are so poorly understood that the result is frustration for all. However, when social interactions are even reasonably harmonious, they result in individual social growth and other positive benefits that may extend far beyond the original grouping. And the opposite is true in the case of chronically frustrating social relations—exemplified in its full destructiveness when rivalries, misunderstandings, and variant interpretations of social rules lead to acts of personal vengefulness, wholesale persecution of minority groups, or military conflicts among states and nations.

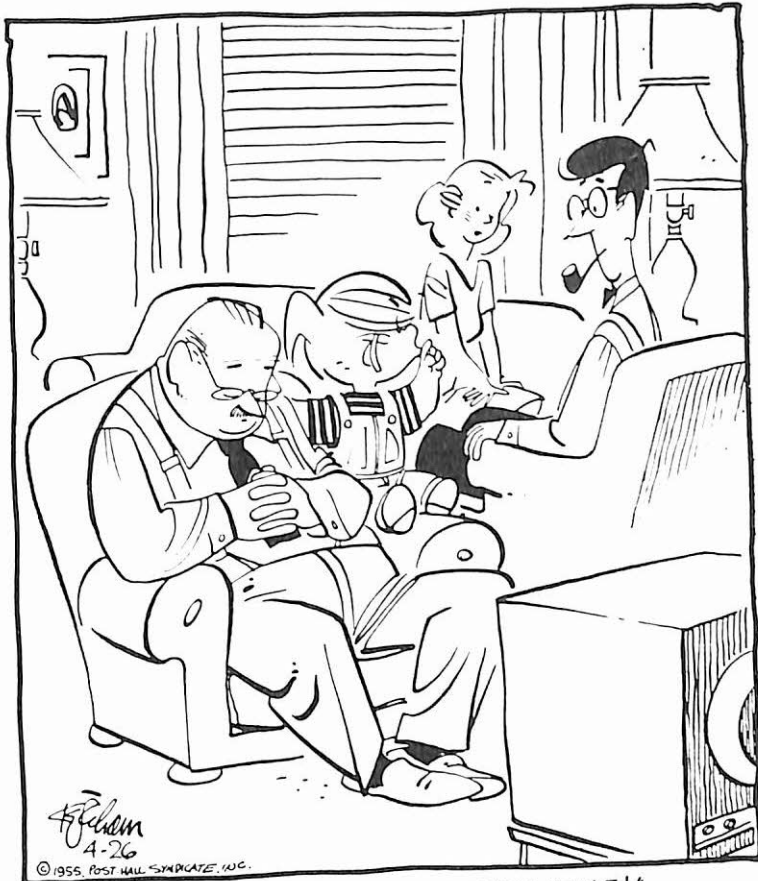
Individual skills required for harmonious social relations

The individual boy or girl must be able to discriminate which ones of his or her needs have a reasonable chance of being met through interaction with the members of a given group. This requires an understanding of his hierarchy of needs, and also a certain amount of social perceptiveness or understanding of others' needs. The acquisition of these self-insights and social intelligence is a gradually developing function just as is learning to manipulate numbers in arithmetic. Although these social understandings may be acquired by trial-and-error methods, they can be learned more easily with counsel and guidance.

Each individual must acquire socially attractive ways of responding in order to become an acceptable participant in group activities. If he has to force his way into groups by sheer brute force, he will almost certainly disrupt the harmony of the group's functioning and become the target of the members' aggressive attacks. Every person acquires distinctive ways of responding to other individuals, based on his prior experiences in the home and the larger environment. He has developed a perceptual sensitivity as to which approach (a smile, a compliment, an ingratiating comment, etc.) is most likely to produce satisfactory results in different

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situations. These behavior tendencies appear to be learned by a succession of positive and negative reinforcements within social settings.² The boy or girl whose displays of temper have been indulged by his parents (positive reinforcement) will be handicapped in his social interactions outside the immediate family. Or the child whose initiative and independence have been depressed by parental censure and discouragement (negative reinforcements) will find it difficult to join group activities without an invitation



SHHHH! GRANPA CAN'T HEAR HIS COWBOY MOVIE!

FIGURE 22-2. Children often misinterpret the social needs of others. It is a common error to infer that companions always have the same needs as oneself.

² Psychologists have had notable success in modifying the biosocial habits of such animals as pigeons, dogs, and chimpanzees by programs of positive and negative reinforcement.

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or to fit himself for positions of leadership. The school can do much to help pupils who have acquired undesirable or socially unacceptable ways of responding to others. However, the retraining is a slow process, and the teacher must curb her own tendency toward simple rejection of the socially unattractive pupil. This latter tendency has been well documented in a recent research study (6). There seems to be general agreement between the preferences of preadolescent pupils and the preferences of their teachers for having or not having certain pupils in the classroom.

Each person must acquire the intellectual, social, and emotional skills required for co-operative endeavors. Some satisfactions to be derived from social interactions can be realized only by co-operative activities. The experience of co-operation in academic subgroupings is customarily provided in the typical modern school. Through these experiences pupils have opportunities to explore their aptitudes and skills for leadership and harmonious collaboration. This does not mean that the teacher should discourage all competitive activities within the classroom. This would be unrealistic and certainly inconsistent with the philosophy that education is the epitome of everyday living as well as a preparation for the later years. In American culture boys and girls *like* to compete with each other and the resulting drive toward individual achievement is considerable. However, competition is only one way to respond in a social setting. Boys and girls must *learn* when to compete and when to co-operate. Competition for individual status and personal advantage in a co-operative undertaking is likely to evoke discontent and hostility within the social group. In a widely quoted study of the effects of co-operation and competition on the behavior of college students it is concluded that communication of ideas, co-ordination of efforts, friendliness, and pride in one's group, all of which are basic to group harmony and effectiveness, appear to be disrupted when members see themselves as competing for mutually exclusive goals (3). There is also some evidence presented in this study that competitiveness produces greater personal insecurity because members expect hostility from each other.



Pupils enjoy co-operative projects. (State Teachers College, West Chester, Pa.)

Each individual must learn socially acceptable ways of controlling or expressing his aggressive impulses. According to one popular theory in psychology, frustration always produces an increment in the *need* for aggression toward the individual most clearly responsible for the frustration (4). Frustration is inevitable in social interactions. This means that if harmonious social functioning is to be maintained the individuals involved must inhibit their impulses toward aggressive attack (build up "frustration tolerance") or express them in substitute ways acceptable to the group. As we have discussed elsewhere in this book, pupils can be helped in their efforts to acquire a tolerance for frustrating conditions. They can also profit from guidance and counsel in learning substitute ways of expending their aggressive tendencies.

Although the foregoing is not an exhaustive treatment of the skills required for harmonious social relations, it does suggest a number of ways in which teachers can be of aid to their pupils. Much can be done to make the classroom a more effective laboratory in social relations, an environment where pupils are encouraged to experiment, verbalize, and conceptualize their social needs, frustrations, and satisfactions in co-ordination with interesting social activities.

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THE TEACHER'S INFLUENCE ON SOCIAL FUNCTIONING WITHIN THE CLASSROOM

The teacher influences the social structure and dynamics within her classroom by a wide variety of behavior which ranges all the way from outright selection of pupil subgroupings for various activities to her more labile and subtle actions which affect the classroom "atmosphere." One investigator has developed a highly reliable rating instrument for assessing the "social-emotional climate" of a classroom (14). Evaluations based on observation of the teacher's behavior are made for each of the following seven categories: (a) learner-supportive statements or questions (praising, encouraging, or bolstering the learner), (b) acceptant or clarifying statements or questions (to help the learner gain insight into his problem), (c) problem-structuring statements or questions (to sustain the learner by facilitating his problem-solving activities), (d) statements evidencing no supportive intent (polite formalities, administrative details, etc.), (e) directive statements or questions (to influence the learner to adopt the teacher's viewpoint or pursue a course of action she advocates), (f) reproofing, disapproving, or disparaging statements or questions (to admonish the learner against unacceptable behavior and to represent societal values as viewed by teacher), and (g) teacher-supportive statements or questions (to defend or justify the teacher). It has been shown that teachers vary considerably from each other along these dimensions, but are fairly consistent in the kind of atmosphere each creates over a period of time. Let us now have a look at the probable effects of a few of these social-emotional climates on pupil behavior.

The authoritarian teacher

The authoritarian role is adopted naturally by a few beginning teachers with no qualms or doubts as to its appropriateness or effectiveness. However, the majority of authoritarian teachers started their careers with the best intentions of being democratic, permissive, and task-centered in their relationships with pupils. But, as so often happens with the novice in group leadership, democratic procedures in uncertain and faltering hands are in-

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terpreted as evidences of a lack of leadership, and social chaos threatens. Under these conditions the beginning teacher frequently abandons her ideals of democratic supervision and falls back on authoritarianism as a means of social control. Commanding, censoring, structuring, and interpreting pupil activities according to her own values and needs gives her the comfortable feeling that she is in command and that her pupils are in their proper places.

There can be little question that *effective* authoritarianism does produce overt acquiescence and decorous behavior as long as the teacher remains within the classroom (8). But it also produces pupil apathy, dependence on the teacher for direction and approval, latent hostility, scapegoating, and immaturity of social perception and response. Although it may under favorable circumstances produce the greatest gains in routine academic skills, it does so at the price of inhibiting pupil initiative and creativity. It drastically curtails social experimentation among pupils and tends to pit pupil against pupil in a competitive struggle for teacher approval and special privileges. The debits are impressive—perhaps too great a price to pay for classroom “discipline” in its narrowest meaning.

The democratic or “learner-centered” teacher

The democratic teacher provides freedom for self-expression and pupil-initiated classroom activities. Boys and girls are encouraged to explore their own attitudes and feelings, make and enforce their own rules for classroom conduct, and carry out projects of their own planning within the broad limits of a flexible curriculum. The teacher is a participating guide, ever ready to offer aid and counsel upon request, but never a domineering figure. The teacher’s role is that of an informant who helps the pupils discover the most effective and rewarding ways of accomplishing projected assignments and of living harmoniously with each other.

Under these conditions pupils learn to accept responsibility for their own growth and advancement, and for the welfare of others whenever they are elected to positions of leadership and trust. They learn to co-operate on projects that have been chosen to



The democratic teacher is an interested participant in a classroom project.
(Public Schools, Grosse Point, Mich.)

advance the welfare of the group. This give-and-take with a minimum of adult intervention is invaluable experience in learning to live harmoniously with others. Psychological research has shown that the learning of complex skills (even as simple as learning to write in script style) takes place most efficiently when the individual is permitted to correct his own errors in a nonpunitive setting.

As Kurt Lewin noted in his early studies of authoritarian, democratic, and laissez-faire leadership, children have *only to submit* to authoritarianism but they *must learn* democracy (8). Studies in social relations have shown that individuals are responsive to the classroom atmosphere, that proper grouping facilitates many types of learning, that group activities are effective ways to modify attitudes and behavior, and that teachers can use the group in teaching problem-solving (11).

Understanding and skills needed by the teacher for effective group work

This topic has been so ably summarized in the educational literature that we reproduce one such analysis in its original form:

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If we are to act upon our recognition of the role of group processes in classroom learning, we must add to or reinforce certain attitudes, skills and understandings. Courses and textbooks in teaching methods have concentrated on such topics as selection of general and specific objectives; effective use of questions and answers; lecture, recitation and discussion methods; classroom management; utilization of teaching aids, and evaluation procedures. These are vital, but they need the bedrock of human understanding that skill in group processes may provide. As teachers, we need, besides the technics just cited:

1. *Skill in pupil-teacher planning* so that students can accept responsible roles, from determining objectives to evaluating learning progress periodically.
2. *Skill in the use of sociometric and other technics* for getting at the social and communication relationships in the group.
3. *Skill in the use of projective technics* for diagnosing group-process problems as well as for increasing perception of the feelings, attitudes and accepted customs of the individual students. [As noted elsewhere in this volume, we feel that this is a bit idealistic since projective methods require a great deal of psychological training for useful and valid interpretations.]
4. *Development of an adequate concept of leadership* to equip the teacher for effective group leadership and at the same time help pupils into responsible leader roles.
5. *Growth in democratic attitudes and behavior* to help create a social atmosphere which encourages free communication, participation, initiative, and creativity.
6. *Skill in compiling and interpreting anecdotal records about pupil interaction* to advance one's understanding of particular children.

In summary, boys and girls are taught in groups. Our teaching methods must recognize this fact if we are to capitalize on the efficiency of group experiences for certain kinds of learning. In improving our skills in understanding, interpreting and using group processes for learning, we must not anticipate a panacea for all classroom problems.

Many of our best present teaching methods we will keep, while remaining alert for new methods that utilize group experiences to improve learning.³

³ Adapted from A. H. Passow and G. N. Mackenzie. Research in group behavior. *The Nation's Schools*, 1952, 49, 71-73. With permission of publisher.



Youth need opportunities to learn by experience—in social relations as well as in the more familiar learning situations of the school program.

Some of the understandings teachers need for effective group work can be acquired by study and the use of evaluation and assessment methods like those described in Part Two of this book. However, the *skills* for democratic leadership and group planning have to be learned through observation of groups in action and through active participation as a group leader. This seems to be a requirement for the acquisition of almost any type of skill. For example, reading about the game may assist the beginning golfer, but observation of good players and the trial-and-error of one's own efforts are required to produce skill.

Helping teachers acquire skills in group work

The first step involves observations of the dynamics of group functioning. Prior reading and discussion will have sensitized the novice observer to the important dimensions of interpersonal response. Observation permits extensional definitions (familiar examples) of these theoretical concepts.

Here is an illustration of how a group of teachers-in-training might be introduced to effective observational techniques. The

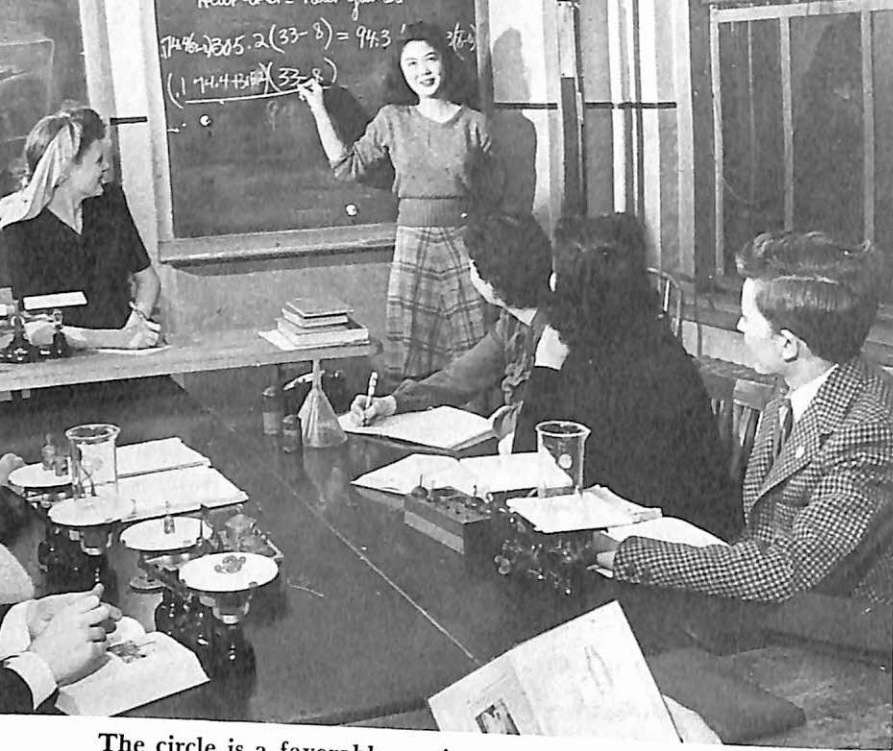
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instructor has led them in a discussion of Withall's technique for assessing the social-emotional climate of a classroom. In the discussion the instructor has *practiced* democratic and learner-centered procedures. When the time is appropriate, he suggests that they might find it profitable to have part of the group dramatize the teacher and pupils in different kinds of classroom climates while the other part of the group acts as observers. This suggestion is discussed and related to role-playing and the techniques of psychodrama. When the group is ready, a dramatic skit of an authoritarian teacher and her pupils is presented. Then the observers discuss with the actors the dynamics of the classroom climate as they viewed it. The observers then take their turns as actors and present a democratic teacher and her pupils while the previous actors now function as observers. Again there is discussion and a comparison of observations on what occurred. The roles of playing teacher and pupils are passed around the group in successive skits until the teachers-in-training agree that they have pretty well mastered Withall's methods of evaluation. During this entire procedure, which might extend over several class periods, the instructor functions as a democratic and permissive leader. He encourages discussion, participates in the dramatic activities, and gives information upon request.

When the group members feel that they are ready, they are encouraged to make observations within real classrooms of a nearby school. Two or three observers make independent evaluations of each of several classrooms. The teachers-in-training then come back together to compare their independent evaluations and to discuss problems. The instructor may suggest another round of role-playing to help clarify confusing issues.⁴

It is easy to see how this approach could be extended. The teachers-in-training might be given an opportunity to teach in a real classroom where their performances would be evaluated by the master teacher, the instructor, and fellow students. This evaluation would be in the same democratic, permissive vein with an emphasis on understanding and possibilities for further improve-

⁴ This approach to observer training is suggested by Heyns and Zander (7) as an effective procedure in another social setting.



The circle is a favorable seating arrangement for group discussion. Each pupil can observe the reactions of his classmates and teacher.

ment. These discussions would permit a weaving in of research findings on many facets of effective group leadership, for example, the fact that the leader's participation in the group's activities (rather than his direction or mere supervision) is most effective in altering the attitudes of the participants (11). Or the fact that the sheer physical position of participants in a group influence the level of interaction — a circle is recommended as encouraging the greatest flow of communication (12).

There is considerable research evidence that a training program in group leadership similar to the one in our illustration does produce increments in understanding and skill. The following is one of the more interesting studies of the outcomes of a well-designed program of training in democratic leadership.

For this experiment six leaders in a summer "Home Camp" whose leadership behavior was considered unsatisfactory by their supervisors were selected for study (1). They were between 35 and 45 years of age and had been doing recreational work on the WPA for an average of three years. After initial testing by observation "on the job," they were divided into two groups. One

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group of three was given training in group leadership for three weeks (two hours a day while they continued their work) and the other three workers continued full time with their normal routines in the Home Camp. At the end of the fourth week both the trained and untrained leaders were again tested on the job by the same methods used in the beginning of the study. Before the training there was strong evidence that the morale of all six leaders was low. They stated quite frankly that their work was drudgery. Their facial expressions and bodily postures reflected apathy, worry, and unhappiness. The untrained leaders continued along these lines throughout the period of the study, whereas the trained leaders became enthusiastic and started making long-range plans. They attracted twice as many children to their particular projects, and the children became enthusiastic about their activities. As a result of the training, their leaders decreased their use of authoritarian methods of group control (reduction for two leaders from over 70 per cent to less than 10 per cent), and increased their use of democratic, initiative-stimulating procedures (increases up to 73 per cent of their interactions with the children). The retrained leaders shifted from "classroom" techniques characterized by dependence of the children and by uniformity of procedure to "group methods" which created productivity and co-operation.

How were these changes in leaders' behavior produced? In essence, the method of retraining was a combination of changing the attitudes of the leaders and changing their techniques. Neither alone would have sufficed. The first step was to have the experimental subjects observe each other, the trainer himself, and films on different types of leadership. These experiences were analyzed and discussed in a democratic setting so that the techniques became integrated with important concepts of democratic practice. The trainees became sensitive to the many ways a democratic leader can meet various social situations. The trainer did not lecture to the trainees but was rather an active *participant* in their learning experiences. The trainees developed security and a calm poise when they discovered that discipline did not require their constant direction and vigilance. The trainees quickly saw the favorable reactions of the children toward democratic methods.

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They also felt their own positive reactions toward the democratic training methods by which they were learning more successful techniques of working with groups of children.

Self-discipline in social relations

An important goal in education is to help boys and girls interiorize their own set of values as guides to acceptable interpersonal response. In order to reach this goal the teacher must release the reins of authoritarian control and permit the pupils to make and execute some of their own rules. This can be done most effectively in a classroom atmosphere that encourages social experimentation and democratic procedures. Although authoritarianism can prevent overt conflicts in social relations (at least when a strong authoritarian leader is present), it also promotes apathy, egocentrism, and stereotyped responses. Democratic procedures encourage a flexibility of behavior that is desirable in a world of rapid changes. Furthermore, democratic processes demand initiative, discussion, and reliance on rules of conduct formulated and executed by the group.

One research study shows that pupils who practice a form of self-government have more respect for *all* legal procedures (10). It seems possible to introduce pupils to democratic self-government very early in their school careers and then gradually give them increasing responsibility for their own conduct. This is consistent with our philosophy that the classroom should be a laboratory in which experimentation in social relations is permitted and encouraged.

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PART FIVE

*Your
Mental Health
as a
Teacher*

SOCRATES' advice "Know thyself" is just as appropriate today as it was some 2500 years ago. A person who has failed to resolve his own conflicts and find a happy place in the community has too little time or energy to help others. He is too wrapped up in his own problems. Teachers, who have necessarily dedicated their lives to social service, must enjoy reasonably good mental health in order to serve the best interests of youth. Superior knowledge of an academic field and the best of skills in teaching methods are not enough. A teacher is ineffective with a large proportion of her pupils if she cannot appreciate and understand their adjustment problems.

Good mental health implies a large measure of self-understanding and broad insights into the intricacies of the adjustment setting. The mentally healthy teacher grows within the profession and within her chosen community. With experience she increases in usefulness, influence, and prestige. This section of the book is a very brief introduction to some of the adjustment problems in a career of teaching.

The Psychological Growth and Adjustment of Teachers: Two Autobiographies

PSYCHOLOGICAL GROWTH is a continuous process throughout the life span. An individual is forever adjusting to the pressures of his own needs and the demands of his environment. Since there is good reason to believe that the general principles of growth and adjustment apply equally well to all but the very old, there is no need to consider the teacher a person apart and differently made. Those general conditions which favor or disfavor the mental health of pupils function in similar fashion for the teacher. The concepts and principles presented in Parts Three and Four of this book should help the teacher understand her own adjustment difficulties as well as those of her pupils.

Nevertheless, it is often difficult for a person to see any relationship between the general principles of growth and adjustment and the compelling urgency of his own problems. His needs and aspirations are too immediate and his frustrations too disorganizing to permit a clear view of next steps to be taken. It is usually easier to see the same problems and their probable solutions in the life history of another person. Once seen in the life of another, paths toward further growth and better adjustment in one's own case are frequently suggested.

This chapter presents the autobiographies of two successful teachers. Although some of their experiences are unique, their

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hopes, ambitions, doubts, and despairs are commonly found among effective teachers who enjoy good mental health. It seems likely that you may find something of yourself in each of these autobiographies. You may anticipate some of the adjustment demands of the future, and acquire a deeper appreciation of the many satisfactions of teaching by studying the careers of these individuals.

The following autobiography of a highly intelligent and sensitive young man reflects the personal tortures of an individual "finding himself" in the collegiate program and in the teaching of youth. Written with extreme candor and a rare talent for introspection and literary expression, this life history tells much about the author and the communities in which he taught for six years. It traces the gradual shift from a preoccupation with personal problems to interest in the aspirations and frustrations of his pupils. This document also illustrates a great many of the adjustment difficulties of the beginning teacher.¹

In the beginning, I didn't start out wanting to be a teacher. It was science that intrigued me. I had read science-fiction ever since I was able to get out of primer material. The fascination of discovering something new, and the possibility of working with ideas no one had ever thought much about, seemed to me to be the major fascination in studying science. I was 16.

A combination of things prevented me from getting scientific training. My high-school marks had averaged no better than B or so, and the colleges were so loaded with World War II veterans that I had a real problem in locating a school that would admit me. I managed to get into _____ State Teachers College in _____ fully intending to transfer to an engineering school as soon as my marks were acceptable. Which school didn't matter very much. The immediate goal was to make the record acceptable and myself admissible. _____ was too small and obscure to be glamorous, and the possibility of becoming a teacher hadn't occurred to me.

But the required program in the humanities I took in my freshman year broadened my horizons. In English, we read *Henry IV*, *Madame Bovary*, *Lord Jim*, *Fathers and Sons*, *Huckleberry Finn*,

¹ We would like to express our sincere appreciation to Mr. Donald F. Jalbert for this autobiography of his career in teaching.

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and an extensive list of other world classics. Although I'd been an omnivorous reader for years, I'd read very little literature. The high-school anthology material had seemed so remote from my real interests that I had simply concluded that literature was for "squares." College English was different. In *Lord Jim* I felt that some of my own personal problems were reflected; in *Henry IV*, I became fascinated by Falstaff, and by the heady discovery that poetic language could be both virile and emotionally satisfying.

My courses in Music Appreciation and Art Appreciation fed some systematic information into areas of interest I had had for years, and gave me tools for understanding the structure of art. My math course that year, which involved an exposure to some elementary calculus, pretty well convinced me that even though I could perform the operations required in assignments, I really was unable to think mathematically. (High school never allowed me to make that discovery, since I had performed all operations routinely.)

The sophomore year was radically different. I moved to the college and began to know more people and get into more activities. Course work came to seem less meaningful, under the pressures of more fundamental problems. I met a couple of returned veterans, and, for the balance of the year, the three of us spent innumerable hours in "bull sessions," probing conversationally the mysteries of the universe and asking the questions most young men ask of it. We free-associated to *Moby Dick*, Thomas Wolfe's novels, Shakespearean productions we had seen, Hemingway, Tolstoy, Italian movies, the Marshall Plan, political science, the pécadilloes and intellectual hobby-horses of our teachers, the possibilities of world federal government, the idiosyncrasies of Ted Williams, and the charms of the local coeds. We liked Stan Kenton, because his brassy, driving music gave us a certain release. We speculated about the human rewards of teaching despite its financial disadvantages. As I remember it, we talked very little about pupils. Our own adolescent impulses were so overwhelming that we had little objectivity about the real problems of the people we wanted to work with. The terms in which we conceived of our profession were abstract, sometimes sentimental, sometimes cynical. We wanted to be teachers because education was the one hope for the world, and we wanted to be part of the great American, Jeffersonian, educational, democratic experiment.

In my junior year, I transferred to another teacher's college, _____ State in a neighboring state. It was a training school for secondary school teachers and would allow me to specialize in English, which had become my major interest. Also, I could live

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with an uncle who lived in a suburb and save money on dormitory expenses. My own independence of adult direction seemed firmly established, but the decision to live with my uncle was, underneath, a kind of reluctance to stay completely on my own. The importance of this pattern for my teaching didn't become clear to me until years later.

At _____, I found a very different kind of school. A school twice _____'s size, it had a measure of the impersonality that large organizations inevitably have. It had innumerable people who could overwhelm me with the depth of their esoteric understandings (of such things as Kafka, the theories of Verplanck, the music of Bartok); it had active coteries of drama students, creative and bearded artists, singers of bawdy songs, and political radicals. This was a microcosmic version of New York City Bohemianism, and it took me a long time to get used to what I really thought of it.

I made a number of friends who had a variety of interests, a pre-med student, a political scientist, a radio announcer, and many who were, like myself, interested in becoming teachers. There were many here who never intended to teach, but who were taking advantage of the excellent liberal arts program offered to undergraduates; these were called "bootleggers." They provided an intellectual leaven that gave the school an atmosphere comparable to that of a larger university. In the liberal arts *versus* education controversy that raged wherever students discussed the education courses required of all, the bootleggers were apt to be more incisive in their arguments and better able to cite authoritative opinion (Robert Hutchins, Mortimer Adler, Sartre) to support their views. There was something of an intellectual fashion in deprecating education courses, partly because the education students like myself were either less intelligent or more willing to concede points far short of a verbal duel-to-the-death.

Among the most significant of my experiences in class work were my education courses. I found general educational psychology, the study of frustration-aggression patterns, Lewin's studies in group atmospheres, the psychodynamic mechanisms of Freudian theorists, the normal curve, theories of evaluation, and studying methods of teaching all fascinating. Here was something on which to fasten my conviction about the way people should behave towards each other. Here were tools for devising ways of improving human relations. I was too impatient, or lazy, to be a real *student* of education (or of anything else, for that matter) since the names of particular researchers and the exact results of the studies tended to

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fade out into general impressions of conclusions and implications. Not until I became a doctoral candidate, after 6 years in public school work, did there seem any reason for making my information serve me through its accuracy instead of its inspiration. But these introductions to the study of education were good props for my hunt for worth-while values, and for means of tying myself constructively to other people. I looked forward to practice-teaching with apprehensiveness, but with an avid desire to see what I could do in the classroom.

Practice-teaching itself was, of course, not the picnic I expected, nor often an opportunity for trying out my own ideas. The training school had a syllabus calling for particular topics in particular years, to avoid the chaos that would result if every quixotic practice-teacher taught whatever she chose. My own assigned units were in The Short Story and in Speech. This was an eleventh-grade group; I met with it one period a day for half a semester (for less, actually,—only 38 complete periods), the rest of the time being given to my partner, or to routine procedures or demonstrations offered by my supervisor. My critic teacher was invariably sympathetic with my problems, was helpful in keeping my head out of the clouds and fixed on the routines that couldn't be overlooked, and gave me a great deal of help in realizing that "adjusting to individual differences" meant that you had to figure out different things for your individual students to do, and not just adjust your individual thinking about them. Of course, the contact with the pupils was priceless—it was good to learn that they reacted well to what I was planning for them. They appeared to respond with warmth and enthusiasm to my circumscribed lesson plans. But I wasn't thinking pupils, not while I was practice teaching. I was thinking educational ideas, and pretty nebulous ones at that. It took me a long time, and a few years of teaching, to realize how much my thoughts about the whole process were in terms of what I could devise that would be a sound and valuable thing for *them* to do. Practice teaching, all in all, was a good kind of puberty rite, and helped me feel that this was what I *really* wanted to do with my life.

My first job was in a school in the Catskill Mountains. In the spring of my senior year, I had a large number of interviews for jobs in schools all over the state, finally settling on this because it was a small town and because it had a movie theater! I arrived in town a week before school opened. No brass bands met me, and not a single fellow teacher felt the least bit concerned about a youthful colleague's arrival. Both facts affronted my ego. I spent

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the week in my room at school inventorying materials, filling out lesson plans, putting news clippings of current events on bulletin boards, and trying very much to go through the external motions of being a teacher. I would teach my seniors a unit in Research Writing, as college preparation. My juniors were to start their survey of English Literature with a unit in folk ballads, and I was busily locating recordings and reproducing the words to folk songs for them to sing. My sophomores were to Adjust Themselves to Peer Relations through the reading of a group of short stories in their literature text. My lesson plans were neat, as coherently arranged as anything I had ever done in my life (or have done since), and crammed with ideas for games in case I ran out of materials. I was then 20 years old.

A week later the pupils came to school.

My junior home room had 20 boys and girls. There were three broken homes in the class. One girl, a tall lumbering kid with a fog horn voice and a catlike timidity, had a measured I.Q. of 72. The most intelligent individual was a boy with an I.Q. of 115. One of them came to school a half hour before the rest of the group, sat in a desk right in front of my own, and read comic books until the bell rang for classes. Many of the pupils were from farm homes and had to do the chores mornings before coming to school. The star of the basketball team, a sullen, sardonic boy who was invariably surrounded by an entourage of athletes and cheerleaders, was far from what I would nominate as Leader of the Year. These students were the children of storekeepers, saloon owners, feed-store operators, farmers, migrant workers, dentists, insurance salesmen. They weren't as pretty as the pictures in the education texts, and they weren't as conveniently intelligent as the sons of professors and lawyers to whom I could teach Paradox and Dramatic Structure while practice teaching. I had planned a course in English literature for *this* group! I started to think pupils, not ingenious and academically respectable ideas. What I could salvage of my lesson plans I used, but I started from scratch and tried to dream up things this group could succeed with. They had experiences in speech—conversations, telephoning, introductions, pronunciation, parliamentary procedure. They worked on preparing a tape recording of a choral speaking selection on Tolerance. They did reading exercises in magazines—all at once, not in groups. The pupils spent one day a week in class simply reading books of their own choice and having private conversations with me about their reading—an idea I had encountered

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while practice teaching, which I disliked then because it seemed to abdicate a measure of responsibility for instruction, but it worked better than anything else I tried that year.

These experiences were all more realistic for these pupils than what I had at first planned, yet, somehow, they never "took." Theoretically, they should have. Textbooks in methods claimed or hinted at the success of all of them, but most never really seemed to satisfy whatever needs my students had. The isolated comic book reader never responded to my futile efforts to draw him into a conversation, and made no friends with his classmates. The slow girl with the fog horn voice never lost her timidity, and the clique structure in the group didn't change much, except for shifts that were natural in adolescent social relations, not the outcome of a sound program. No changed behaviors *here*, despite the use of innumerable techniques that ought to have, in principle, solved a lot of my problems in "getting down to their level." That year, I taught six classes a day, operated a large study hall and a home room or club period daily, advised the junior class, sponsored assembly monitors, the senior play, the junior play, the dramatics club, directed the seniors in the writing and presentation of an original class-night musical, helped seniors prepare scripts for making morning announcements over the public-address system, served as co-ordinator of the assembly committee, worked on a variety of faculty committees, earned \$2400—and saw a few movies.

My bad feelings about my own failure to develop techniques that seemed to give satisfaction, and not just busy-work experience, to my students, came out as iconoclastic grumbling. I focused it on the principal, whom I saw as several varieties of ogre. He was an "agginer"—he was "agin" everything I took to him for advice. If I wanted to have the seniors do a unit on "Women" (the suggestion had facetiously come from a couple of piquant males, of course, but I saw ways of slipping into some useful activities dealing with dating behavior—I thought), he reminded me that this was the last opportunity these students would have for contact with cultural values. If I then came to him with a unit study guide attempting to make Shakespearean language easier to read in a unit on *Macbeth*, he was "agin" that too, on the basis of its remoteness and difficulty. We tugged and hauled about it all year, and he neither granted that my ideas made sense in terms of these students, nor would I grant that his alternative suggestions were anything but obstinacy. My human relations score that year, particularly with my administrator, was close to zero. When I was

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offered a contract for the coming year, I "had had it" in this school, I felt. Partly feelings of guilt about not "getting to the pupils" and partly resentment of what I saw as arbitrary and unhelpful supervision, made me decide that both the school and I would be better off mutually separated.

My second job was in a different kind of school. It was in a resort town in the Adirondacks. There was more sophistication in the students here. Many had travelled a lot, there was a great deal of community interest in "cultural" things like concerts and best-selling books, and the opportunities for contact with people which resort work offers gave these kids a fine polish. My own natural drives had more of an outlet here, and the things I was interested in teaching had a receptive audience. I could do correlated work in social studies, attempt to broaden the horizons of a few by using *Gentlemen's Agreement* as a wedge into the discussion of antisemitism and how people in outgroups feel, offer orientation units to the freshmen including "how-to-study" activities since there were many to whom the problem was a very real one, could teach units in the analysis of propaganda while the McCarthy hearings were being held, study appreciation of motion pictures, and generally pride myself on the academic respectability of the topics I was offering. These were exciting years, because I was dealing with content material close to my own feelings of competence. Also, there were certain unique factors in the resort community itself that made work easier. Most of the students—about 15 of the 20 who graduated each year—went on to some kind of post-high-school training. The pupils had home and community pressures operating on them much like the ones I had felt as a high-school student, and it was easier for me to understand their aims than to understand the drives of the pupils I had worked with before. Then, too, morale in the school was high. It was a singing school. Of the 92 students in the high school, 88 were members of the chorus. (The other tone-deaf four got in on things by acting as choir librarians or keepers-of-the-ropes.) Many days, after school had let out, you would see groups of pupils hanging around together improvising a harmonized version of an old favorite. Directing plays with these imaginative and enthusiastic youngsters was a pleasure. Working with them on yearbooks, or as senior class adviser and perpetual Friday night dance chaperone made life, in its personal satisfactions, much more rewarding here.

But I hadn't lost my tendencies to grumble about things. My work was going as I wanted it to, pretty much, and my administrator was a friendly person who used to roam the halls between periods,

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talking to the kids about their activities. He was always tolerant of my whims and idiosyncrasies, and managed somehow to keep me focused on realistic solutions to my problems without making me feel like a fool for having such nobly abstract ideas. With no other outlet for my dissatisfactions, I had to settle on curriculum problems in general, and went around trying to drum up interest in the need for revising our antiquated marking system, for providing for correlated work among the separate departments (every person in a school this size is a department unto himself, and the strong and variegated personalities didn't respond too well to my insistent demands for closer integration of efforts), or for getting a guidance orientation into our work, since the school lacked a fully qualified guidance counselor. Most of my ideas were seen by my colleagues as youthful crackpotisms. And since I knew relatively nothing about anything I was trying to promote but simply had a vague itch to get started on something "forward-looking," to this extent they were right. Anyhow, about the only radical changes I helped effect here came in the form of a petition for a salary raise that grew out of discussions in the Faculty Association the year I was president—and, at that, the action implementing this was taken by the older and less erratic members of the faculty. No personal monuments, alas. The hopes of another fire-eater and smoke-breather burnt to ashes.

I kept close contact with a friend of mine in a neighboring school during these years. His job was much like my first one in its innumerable responsibilities, and his pupils were farm youth too. This was in one of the most impoverished counties in the state. The farms were marginal at best. The problems many of his students had to cope with were sometimes overwhelming. Their stories on occasion seemed like one out of Steinbeck, or Faulkner. Yet there was an atmosphere in the school, which, over the years, I came to respect and admire.

Teachers in the school each made a case study of one student a year, under the direction of a county guidance official, and presented their findings to each other in faculty meetings. Much official faculty time was devoted to studying student problems. There was an honest facing up to the real problems of adjustment and growth their students lived with.

I was visiting one day and saw a set of spelling papers that had just come from a group in the 10th grade. One boy's writing was that of an illiterate. His "words" were merely combinations of pseudo-letters and scrawls, but the beginning of a few words indicated that he could remember the first letters in some. My observa-

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tions, combined with a theoretical background in remedial reading I had gained in a few university courses, led me to suggest to my friend that it looked as though something might be done for the boy's writing by elementary phonetic and visual discrimination exercises.

My friend came out immediately with a dossier on him far more complete than any I had ever heard teachers offer when commenting on a student's academic problems. The boy was a ward of the state living in a foster home, doing the chores every morning and night for his keep. He had seen his father shoot his mother and then himself commit suicide. A psychological examination had shown evidence of some kind of organic brain defect, so that this boy found it difficult to make any kind of mental associations of an abstract kind. He wanted to join the navy, but had no real conception of navy life, nor of the literacy qualifications it required. Getting a realistic conception of himself seemed to my friend to be a far more important step for the boy, and a necessary preliminary to giving him any help in reading or writing.

In this school, people thought about their student's problems first; the technique and the content came later. You could sense it in the corridors, where pupils talked amiably with each other and with teachers. There was no need for groups of students to seclude themselves in corners, for defacing desks, or for holding water fights in the lavatories in order to release their pent up aggressions. This was a story-book school, one like those described in the education texts. Yet here it was, hidden away in a poverty-ridden county with no one singing its praises or offering its program for inspection by the public. I didn't know the key to it, but it was becoming clearer to me all the time that the answer to teaching problems lay less in fitting the techniques to the situation than in looking at the pupils and dreaming up the techniques—or rifling the literature for them—that *might* work best for their *needs*. No longer an abstraction, I was seeing the results of this hoary cliché by contrasting my own academic but superficial successes with those of my friend, whose regent's record may have looked somewhat sad beside my own, but whose pupils were really showing evidences of becoming better able to cope with their own problems as a result of his program. It was a shattering and humbling experience, and did a lot to break down my cart-before-the-horse attitudes.

During these years, I was looking around for something to do permanently in education, for an area of specialization that would increase my feelings of competence and perhaps improve the effectiveness of my efforts. And, of course, the other motives were

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operating too—the ones we seldom mention in this business—the need for recognition, for financial status, for relief from the ungodly routine of the classroom—I was trying hard to hide them from myself, but they were there, all right. I ruled out administration immediately. My own sour reactions to the administrator's approach to sizing up human relations problems made it impossible for me to see myself in the role. Guidance as a special area seemed not likely, in view of the blind spots in my sensitivities to the problems of certain kinds of pupils. College teaching in a special area, such as English or Social Studies, appealed to me for a while, and I took a few graduate courses at a couple of different schools trying to get the feel of things, but I decided that I just plain wasn't enough interested in the imports of sugar into the West Indies in 1852, the metrics of *The Cid*, or similar pursuits, to want to make a career out of studying and teaching this kind of thing. I rationalized my choice by believing that college teaching would be for me a kind of moral cowardice, since the real problems of education lay in the public schools. I even had a chance to teach a course in freshmen English at a college near one of the schools I worked in, enjoyed it immensely, and had the best outlet yet in teaching for my most cherished abstract notions. But when the opportunity to keep it permanently arose, if I agreed to take a Ph.D. in English, I realized that my initial enthusiasm for the role of freshman English teacher would have very quickly disappeared under the pressures of academic life.

When I discovered the field of Reading I felt I had opened the right door at last. Here was an area grounded in the social and humanitarian sciences which allowed me to integrate many of my interests and would provide me with a fascinating field of specialization in public school work. I took a master's degree in the field, completing my work summers and evenings over a period of three years. In the end, I decided that I was still more interested in the broader field of the Language Arts, which would include reading, as a final choice, and switched into this area when I eventually decided to take a couple of years out to complete a doctor's degree. Before entering the doctoral program, however, I switched jobs once more, trying to see, this time, how I could do in a suburban school near an upstate industrial city. There were a lot of reasons for doing this. One was that my schedule would include classes with groups of combined slow learners, retarded readers, and "discipline problems," and I would have a chance to see if my information from the Reading courses would serve me effectively in the classroom. Another was that my extracurricular load was lightened

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in a somewhat larger school, and I was freed for more thorough attention to my classroom work than I had been able to give (I felt) in the smaller schools where my responsibilities proliferated. Still another reason involved the chance to serve as a department chairman when the school explored this means of working with curriculum problems.

The remedial class work was stimulating and challenging to my new insights into how to operate in this kind of set-up. We read road maps, studied how to skim an assignment in a textbook, used newspapers as a basis for subgroup work on projects, used individualized reading assignments in materials adapted for kids of this kind, took field trips to the local TV station and newspaper offices, and listened to tape recordings of news broadcasts in order to improve our abilities to distinguish facts from opinion. But I knew after the few months with the group that I was no natural for this kind of work. My feelings for the levels on which they operated in the separate skill or interest areas was never particularly acute. I would often mistake an emotional problem for a reading one, or get the pupils started on materials that were too hard for them and have to change horses in midstream in order to keep them out of further complications. I was too impatient to take the time and energy necessary to break down materials and activities into the discrete stages necessary for helping them progress at their own rates. It was disheartening to learn, once again, that no matter how realistic my thinking about effective techniques for this kind of pupil had become, I was never very successful at working with them from the inside out, through sensing directly their immediate needs. More thorough understanding of these procedures might help other teachers to be effective in this situation, I believed—and I had seen many who did it very well indeed—but I just plain didn't have what it takes to be a good remedial teacher. This was most disconcerting to one whose values about the "real" job of a public school teacher lay so completely in this area.

My work with the English curriculum committee, as its chairman, was rewarding. Although it would have been difficult to measure concretely the things that happened as a result of our work together, there were a lot of indications that we had wrestled with some fundamental problems and reached feasible solutions to them. A considerable amount of professional literature was circulated and discussed, heatedly or enthusiastically, as the result of our meetings. The developmental reading program which was in operation in the elementary school was extended into the junior high school years. Some policy decisions regarding the role of the

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special remedial classes were thought out and changes made in their operation, hoping to give the least able pupils, who had been pretty thoroughly segregated before, more chances to participate with their classmates in curriculum activities. The department persuaded the administration to purchase materials for use on an individualized basis with students, and made arrangements for their circulation so that all teachers would have use of them. And a consultant was secured from a nearby university to offer a course in reading instruction. There was some personal satisfaction in being in on this kind of thing, together with the feeling that what we were doing would eventually make education for some pupils more effective and realistic.

At this point, I kicked myself upstairs.

In reality, my classroom effectiveness had been somewhat greater than I seem to have pictured it here. Although not without my weaknesses, which ran to sloppy planning and a great tendency to abandon an idea halfway through the proving of it, I had done a great deal in public school I could feel satisfied with. At any rate, for years I had toyed with the idea of earning a doctor's degree and working in college teaching of education. I had always felt somewhat at home in education courses, and believed that most of the ideas I was absorbing from them had more relevance for my work than the mythology floating around faculty rooms in gripe sessions (despite my own contributions to these). So I resigned from this job too, and headed for Mecca as a graduate assistant in my chosen field, the Language Arts. I was now 27.

Only—there was no Mecca. Graduate school had its unforeseen headaches. I had to acquire a totally new perspective on my work and myself. The Giants—the teachers whose opinions and research, from afar, seemed so much more effective than those surrounding me when I was in the public schools—turned out to be people after all, at first hand. They had their defects too. My list of cynical aphorisms for teachers whose work disillusioned me, for one reason or another, grew as the year went along. Instead of hearty rewards for my Loyal and Noble service to the Profession, as a graduate I found myself, for the most part, treated as a nameless nonentity, ignored, sometimes snidely accused of all manner of personal inadequacies when discussing research ideas, and reduced to gibbering idiocy by the challenge of ideas with which, I felt, I disagreed.

Well, what's all this—I asked myself—where are the Giants, anyhow?

After months of confusion and no end of soul-searching anguish, something of the truth began to dawn on me. Ever since I had come into the profession, I had focused my aggressions and disappointments on people above me, or on ideas with which I disagreed, making them the causes of my failures, rather than attempting to solve my problems first-hand. I had an incredibly acute tendency to blame somebody else—usually, one or another authority figure—for my own defects. I was a full-fledged iconoclast, refusing to accept treatment I saw as arbitrary and inconsistent from anyone, and ready to soap-box about my ideas at the first syllable of disagreement. The clues for the causes of this pattern were buried in my own experiences, but I seldom let myself look at them. My reason for choosing teaching in the first place, wanting to "tie myself to other people," seems as neat a case of Freudian object-loss cathexis as ever existed. Identifying with pupils and working to make things better for them was probably a process of reliving my own tortured adolescence. Resisting authority, in all kinds of ways, was certainly the product of never having had the chance to work out these tendencies normally after my father's death. Always feeling that I had to approach pupil's problems from the outside, and knowing that there were many whom I simply could not understand, was a product of limited contacts with people different in goals from myself. Graduate school aggravated my particular immaturities to the point where a great deal of my effectiveness as a student was vitiated.

But I began to work myself out of it. Given the opportunity to teach a few courses to undergraduate teacher-trainees in the Language Arts, I managed to get some sense of personal worth back again, and this left me free to be somewhat more dispassionate in my criticisms of the faculty with whom I worked. I could understand, from the inside now, the pressures a college teacher feels from competition with one's friends and colleagues for promotion in rank, the need for publications under one's name in order to fulfill this obligation, the need to serve as consultant to public schools who wanted this service, the pressure from one's own conscience to produce research, all piled on top of a teaching schedule—a superhuman set of responsibilities. I began to discover that there were few Giants after all, meeting all these tasks with energy left to spare, but there were people who did all of them about as well as they could, just as public school teachers did, given their particular limitations. I began to shift my teachers out of the cynical categories I had invented for them, and into that of busy and sometimes confused people, which is a pretty adequate defini-

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tion of human beings anyhow—and my own application for president of the confused club had been filed long ago.

I could look forward to a sometimes ridiculously competitive but fascinating life at the end of my program. It was far from the utopia I had anticipated, but it would give me, I thought, a lot of the personal and professional satisfactions I was looking for. I could look back on 6 years of public school work, ones in which I had failed to be the superman I had wanted, at 16, to be, but which had shown me a lot about people and given me an identity I could be faithful to, even under the threats to identify inherent in the brain-washing of graduate school. I knew, now, that a modicum of what I did was worth the doing, and could believe that I had real, if somewhat limited, contributions to make to people who, like myself, wanted to be teachers. And I could focus my energy on getting *through*, not around or out of, the doctoral program I had elected. It was a respectable past, a masochistic present, and a utopian future I faced. This was about as much as most people ever knew, I felt.

And I still wanted to be a part of that great, American, Jeffersonian, educational, democratic experiment!

The following autobiographical sketch presents the growth and adjustment of a master teacher. This young woman is unusually sensitive to the many personal satisfactions to be derived from working with youth. She works hard toward a better understanding of the boys and girls she teaches and counsels, and is ever alert to ways of improving her skills for guiding the further growth and adjustment of pupils. She has synchronized her life with a pursuit of goals important to herself and to society. Although she has high ideals and aspirations, her autobiography reflects flexibility in taking alternative routes to a common goal, tolerance for frustrations and considerable self-understanding. She has found her place in life and enjoys good mental health.²

When anyone asks me why I chose teaching as my life work, I can only answer with a well worn cliché: "It's in my blood." My grandmother, my mother, and father and a long line of aunts and cousins were teachers. My imagination was fired early by the stories they told of their teaching experiences. I shivered right along with grandmother as she fed chunks of wood into the maw of the *bête*

² We would like to express our sincere appreciation to Miss Lucy Wing for this autobiography of her career in teaching.

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noire of all early rural one room schools, the monster stove, and I tasted salt spray and heard palm trees rustle, as my aunt told of her years of teaching in Hawaii.

I've never thought of teaching as a drab, narrow life, or a small, limited range of endeavor. A gifted teacher moves in an orbit which multiplies into a series of rings, widening as time goes on, like the rings that originate from a pebble cast into a still pond. She touches so many lives. She must love people, children especially, the dull ones with the bright, the grubby little boy with mischief in his eyes as well as the bright young sophomore with the blond pony tail.

Even in high school I felt the urge to help others enjoy learning as I did. During study halls I would explain a geometry theorem to a slower classmate or hear another's French vocabulary. My two favorite subjects, mathematics and history, were my majors in college. I think the clear science of math appealed to my sense of order and discipline, while history fulfilled my deep natural interest in the doings and development of people and nations.

After four years of training, I was ready, but what a disappointment to me that no principal appeared on the horizon waving a contract for me to sign. It was the middle of the depression and jobs were scarce. Sometimes, fifty teachers would apply for one teaching vacancy. The wisest move I could make was to return to college for further study. I decided to be a school librarian in the hope that a history-library combination would be more in demand. It seems rather ironic to me now that even though no high-school positions were available to me, yet I taught two college history quiz sections while carrying a full course load at Library School!

Now, armed with my Library degree, I mapped my campaign. For one long, frustrating summer, I wrote letters, made phone calls, travelled far and wide for interviews, and saw my hopes glimmer and fade. Jobs were still scarce, and school boards demanded experienced teachers. One principal verbally hired me in the morning, then phoned me at eleven o'clock that same evening to retract his promise. However, just three days before school opened in September, I secured the position of history teacher and librarian in a central school. I always felt that I owed my good fortune to the fact that I could teach math, and thus relieve the harassed principal of a surplus geometry class he had been carrying himself. What a thrill to be actually teaching at last! To me, there is nothing like the challenge of one's first position. The school paper had brief write-ups of the new teachers and wrote of me, "Her classes

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have an air of good fellowship. It is easy to see that her students like and respect her." Like all beginners, I made mistakes that first year, but my determination to do a good job, my eagerness to impart knowledge and my sincere interest in my students helped me to grow as a person and improve as an instructor. A teacher with a genuine love for a subject will awaken that passion in her pupils. It's a tremendous satisfaction to me to see a boy or girl achieve up to his potential.

Through the years, I have embraced my profession with a singleness of purpose that I might, under other circumstances, have bestowed upon matrimony or foreign travel or weaving an intricate tapestry. Eager to do graduate work, I attended summer sessions at Columbia University where I earned my M.A. in Political Science. Gradually the library work took more of my time. The library is an integrating unit within the school, and as school librarian I worked in close co-operation with all the faculty and students. During emergency situations, I have often taught a social studies or math class. I made two moves to new communities in eight years, these changes being made for professional and financial advancement.

At this point, I might mention the many extracurricular activities I assumed as part of my teaching experience. I have many times been senior home-room teacher and senior adviser, have supervised the school annual, produced plays and pageants and accompanied seniors on their trips to Washington or New York. As a member of the community as well as a teacher, I entered into my surroundings with enthusiasm and tried to contribute to civic and social life. I have many hobbies. One which gives me a great deal of pleasure is photography. A trip abroad a few years ago afforded me an opportunity of taking many colored pictures, especially of flower displays in foreign countries. Growing gladioli, collecting antique buttons, stamp collecting and making hooked rugs keep me busy in my spare time. One of my color slides of Holland won honorable mention in the *Saturday Review of Literature* Travel-Photo contest in December, 1953. I have always been an active sport enthusiast, both in college and during my teaching career. I enjoy returning to the home farm, and a sunny afternoon in summer is likely to find me driving the farm tractor or helping with the routine chores.

Then, in 1949, an event occurred which changed everything. The guidance counselor in my school died very suddenly, and the Administration and Board of Education urged me to assume this position. To agree to this change would involve twenty-two hours

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of advanced study, three summers of work experience and the abandonment of my beloved library work. However, my principal finally wore down my opposition, and that spring I found my name on a contract to be guidance counselor and vice-principal.

The new area was stimulating, but rather exhausting. A pre- and postsession at N.Y.U. during the hottest summer on record, plus the regular summer session at Albany State left me panting and breathless, but with fourteen hours to my credit. A summer as Probation Officer in Children's Court, two summers of working as sales clerk in a big city department store and one more summer session plus some extension courses completed my requirements.

All this was challenging and exciting, but as I continued in my guidance position, more and more I felt the need to acquire new techniques and increase my knowledge. Actually my psychology courses had been taken in a piecemeal fashion at different universities. I longed to have a year or two of concentrated study to integrate my ideas and philosophy. Fortunately, I was selected for a Delta Kappa Gamma National Scholarship, so I have been working for my doctorate at Syracuse this year. Beginning next September I have a teaching assistantship at the University.

What are my future plans? They are somewhat uncertain, at this point. Whatever position I assume, school psychologist, college professor or director of pupil personnel services, I hope to work closely with faculties or students or both. I like people and I know no greater challenge than to help others develop in knowledge, insight, self-reliance and initiative.

The Teacher and the Community

GOOD MENTAL HEALTH is fostered by a congenial environment in which an individual can satisfy his many social needs with a minimum of frustration and a maximum of eventual success. It is therefore extremely important that the teacher establish herself in a community that is generally favorable to her particular requirements for continuing growth and happiness.

What are the most important things for a beginning teacher to know about a school and community? By what means can she obtain the needed information? As soon as she is able to acquire such knowledge, how can she best relate it to her several roles in the school and community? These are the kinds of questions considered in this chapter.

Steps toward an objective appraisal of the community

In what ways is one community different from any other? There are obviously many different bases from which to describe and evaluate a town, village or city. Not all of the possible perspectives are vital to the teacher, although almost every conceivable aspect of community structure and functioning will be of interest to some. For example, the art teacher may be much more concerned with the esthetic qualities of housing and home furnishings or access to a good museum than the mathematics teacher.

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Or the fifth-grade teacher may be more concerned with the availability of an adequate public library than the kindergarten teacher. However, despite these differences among individual

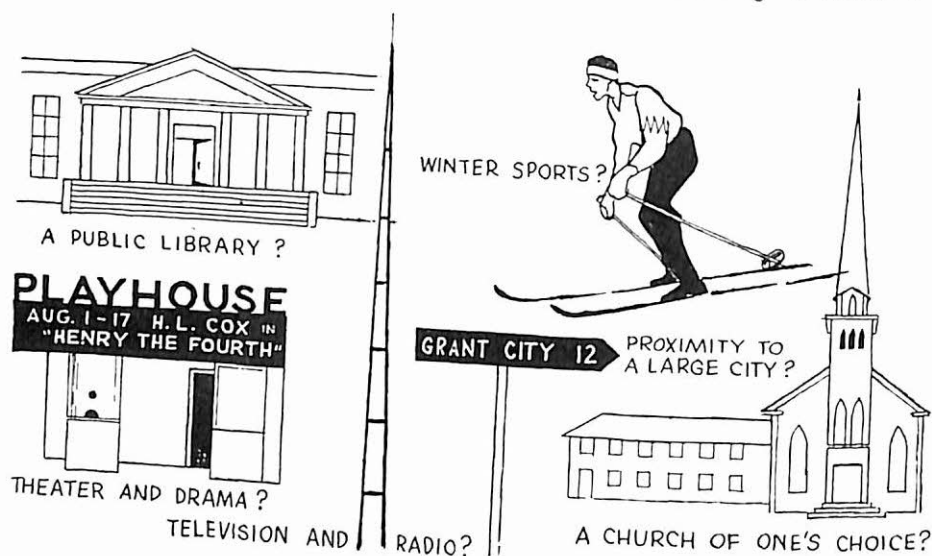


FIGURE 24-1. What are the community's resources for recreational and cultural activities?

teachers, there are some things of vital concern to all. What are the community's resources for an effective educational program at all age levels? What are the major barriers to improvements in education, health, recreation, and the other dimensions of social living judged to be related to the personal happiness and effectiveness of every resident? How has the community changed over the last decade? In what ways is it presently moving? What are the prevailing economic, political, religious, and esthetic tendencies of the citizens?

The foregoing questions are not vacuous inquiries dreamed up by some introspective professor in any ivory tower of a university or college. Answers to such questions relate to the very core of the teacher's work. It is simply not possible in this modern age of the "community school" (5) for the teacher to remain uninformed about the social structure and dynamics of the educational setting and be maximally successful in her work.

What are some of the more physical characteristics of a com-

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munity that will be of interest to the beginning teacher? Some years ago E. L. Thorndike conducted a study that relates to this question. He developed techniques with which he assessed the

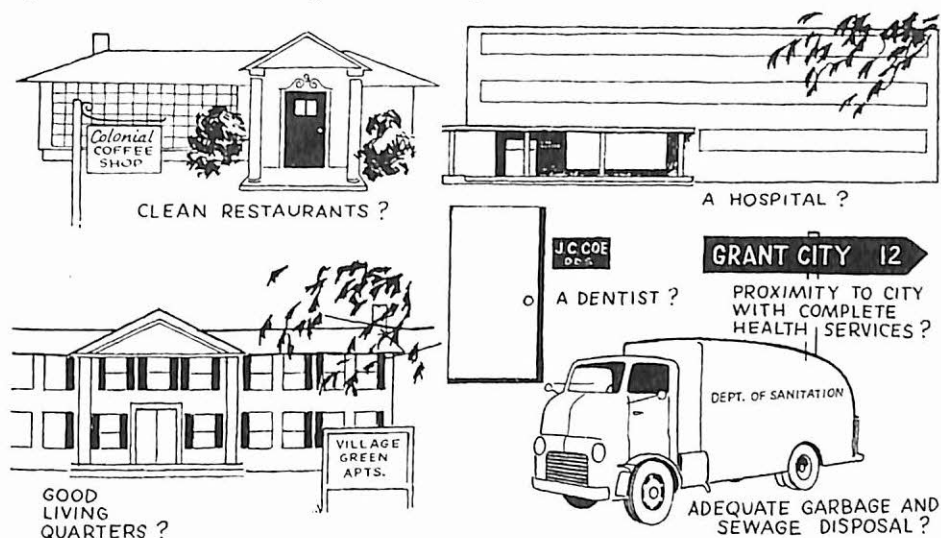


FIGURE 24-2. What are the community's resources for health and hygiene?

over-all "goodness" of more than 300 of our American cities (6). Although his findings are now somewhat dated by the passage of time, his rationale and analytical approach can still be used to advantage. The kinds of information Thorndike considered most important are reflected in the following excerpt¹ from his description of a hypothetical "good" city:

A city which was as high in every trait as the highest city reported for that trait (which is what would occur if all the correlations were perfect) would lose only one baby out of thirty during the first year of life, would have no deaths from typhoid except very rarely in the case of some traveler who brought it with him. It would spend (per capita) over ten times as much public money as the inferior city for teachers' salaries and over twenty times as much for textbooks and supplies, and would have over fifty acres of parks for every thousand of its population, with swimming pools, tennis courts, dancing pavilions and the like kept in first-class condition. It would have no slums; three-quarters of its

¹ From E. L. Thorndike. *Your city*. New York: Harcourt, Brace & Co., 1939. P. 46. With permission of publisher.

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families would own homes; hardly a child under fifteen would be compelled to work; over nine-tenths of those sixteen and seventeen would be in school, taught by teachers receiving salaries of over \$2,500 and over \$3,500 in elementary and high schools respectively." [The latter figures on salaries for the middle 1930's should be contrasted with comparable salaries in a hypothetical city rated low on all traits of "goodness": "... the average salary of a high school teacher would be under \$1,200, and that of an elementary school teacher under \$800."]

Although the beginning teacher is unlikely to find her first position in the "best" of all communities, knowledge of the characteristics and relative status of the city, town, or village in which she accepts her first position will provide valuable perspectives. The teacher who has the necessary skills and who takes the time to make an objective appraisal of her new environment is off to a good start. She can chart her course toward important and realistic goals, and prevent the disillusionment that comes to so many new teachers who find social conditions in their communities so different from their expectations.

A rough guide to evaluating the more physical conditions and characteristics of a large community can be drawn from Thorndike's rating scheme for cities (6). Hayes has also developed a somewhat comparable system for appraising the attributes of the smaller community (2). The beginning teacher who anticipates working in a hitherto unknown setting can consult these volumes with profit.

What the teacher expects of the community

Many of the more social conditions of the community should also be investigated and evaluated before the teacher accepts a position. Is this a place where she can work happily? What are the features of the community that may serve as adjuncts to her particular type of teaching program? What are the negative characteristics of the community that may interfere with her efforts to be an effective and happy person in her role as teacher? Obviously we cannot discuss or even list all of the possible advantages and disadvantages of even one community. However, the following examples of disharmony and unhappiness experienced

Will she be happy in her first teaching position? What are the many school-and-community conditions that will determine her teaching effectiveness?



by beginning teachers who failed to study their communities beforehand may illustrate the importance of such an undertaking.

Edith K., a beginning teacher with strong religious needs of a special orthodox type, accepted a position in a community where religious activities of any sort were minimal and those of her preferred faith completely absent. She spent a personally frustrating and unproductive year in this alien climate. A talk with any one of several individuals in her home church could have saved her this year of dissatisfaction.

Robert J., a beginning teacher with a strong recreational interest in woodcraft, camping, scouting, and allied activities, took the position of mathematics instructor in a plains community where almost everyone had a rural background. Outdoor and group activities of an organized type were nonexistent and he could stimulate no interest in organizing any kind of group endeavor. Robert evaluated this failure as the result of personal inadequacies rather than giving it an unbiased appraisal and attributing his lack of success to special conditions in the community.

We could give many more examples of personal frustration. Fortunately we could also cite a vastly larger number of cases of teachers happy with their communities' resources and special

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features. These good fits between teacher and community are sometimes only achieved after much painful trial and error. A thoughtful analysis in advance of one's needs and the probable extent to which the community can meet them may result in the greater satisfaction of all.

What the community expects of the teacher

The community is a collection of many different persons with a variety of attitudes, values, and expectations. However, it is usually possible for a sensitive observer to appraise the prevailing tendencies of the group as a whole or to identify trends in different subgroups. An over-all estimate of the social, political, economic, and religious climates can be obtained by talking with school personnel, merchants, and other community representatives during more or less casual encounters.

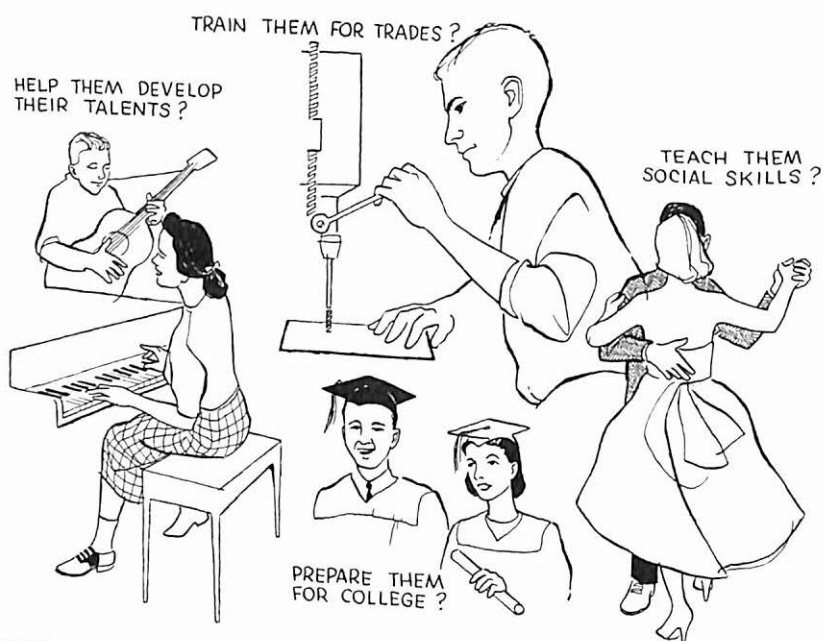


FIGURE 24-3. What do the parents in this community expect the school to emphasize in the education of their sons and daughters?

How does the bulk of the community regard the school, the functions expected of an educational program, and the goals of successful living in general? Two communities can be almost

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identical in geographical features, economic position, and general physical appearance, and yet be very different in prevailing attitudes, mood, and regard for the values of transmitting knowledge and skills to their youth. Very different school plants may be found in two communities almost identical in per capita income and other economic resources. Two communities often place very different values on the desirability of an optimal educational program for their boys and girls.

Now a word about some of the highly personal things that a community may expect of its teachers. The average classroom teacher in a typical American community is expected to play a good many different roles: instructor in basic skills, leader in good citizenship practices, participant in the noneducational functions of the community, ethical model for youth, and so on. We hasten to point out that the teacher need not conform in any artificial ways to the many services expected of her in order to be effective and happy. Community pressures are sometimes completely unreasonable. The informed and skillful teacher can adroitly evade some roles and redefine others without losing esteem. Or she may fill one of the expected roles so satisfactorily that her shortcomings in other expected functions are never noticed. For example, in one community we observed a teacher of music who was so successful in starting school and community orchestras and bands that her many deficiencies in the other roles expected of her were completely overlooked. Most teachers find it to their advantage to emphasize personal competencies in order to fill especially well a limited number of expected social roles that are consistent with their own preferences. Otherwise the teacher may become so harassed by pressures and demands from the community that she is able to do no one thing well as viewed by both herself and the community at large.

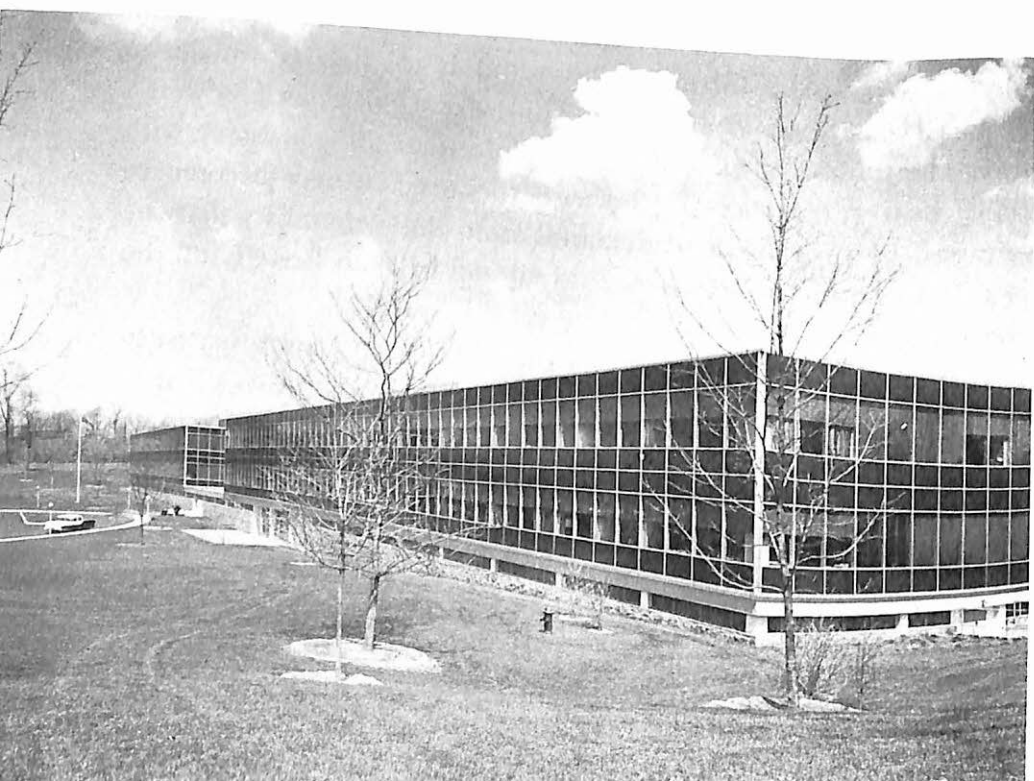
Just what are the personal qualities that parents want the teachers of their boys and girls to have? There is no simple or unequivocal answer to this question, for certainly parental expectations will vary somewhat from community to community. However, the following teacher characteristics appear to be fairly generally expected in our culture, at least they were listed in a recent survey



A

Elementary school buildings provided by two small communities with similar economic assets but different evaluations of the importance of educational facilities. It is probably not surprising to the reader that the teacher turn-over in School A is approximately three times that in School B.

B



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of adult opinions (3): (a) humor, love, and understanding, (b) ethical and moral standards higher than those prevailing in the community, (c) broad academic and cultural backgrounds, and (d) a variety of teaching techniques. The first two of these sets of desired characteristics in a teacher pertain to her character and personality. The latter two are more the products of formal education and life experiences. All are judged to be desired characteristics in the ideal teacher.

What is the school trying to accomplish?

It is almost superfluous to state that the group most important to the beginning teacher's feelings of accomplishment and adequacy is comprised of her colleagues. It is with fellow teachers, supervisors, the principal, and the superintendent that she must join in her aspirations and efforts toward influencing the boys and girls in her community. If she should be judged inadequate or deficient by the majority of this group it is doubtful that she could rise above this handicap to the full enjoyment of teaching—or even retain her position after the first year of service. On the other hand, if she gains the confidence and respect of her colleagues, she will have made much progress toward achieving the goals of education she considers most important. For the teacher with strong support from other school personnel can resist many pressures from the larger community. Moreover the confidence of those in the best position to judge her work will buttress her self-respect and feelings of accomplishment.

Before joining a school system the beginning teacher would find it profitable to spend at least one full day talking to a cross-section of the school personnel ranging from the top administrator down to the custodial help. What things is the school trying to accomplish in this community? What are the recurring grievances of parents, pupils, and other citizens as viewed by the school personnel? What are the complaints of the classroom teachers? How do the administrators and supervisors evaluate the caliber of the teachers as a group? Why have the older teachers stayed in the system? What were the reasons given by her predecessor for leaving? From this mass of sometimes conflicting opinions and

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attitudes the prospective teacher must sift for trends, recurring themes, evasions, and dominant aims and goals.

Although the prospective teacher will be reacting in a very personal way to many of the things she discovers during her interactions with various members of the faculty and administrative staff, she may find it profitable to appraise her findings according to a general guide. She may find it helpful to consider some of the items judged to be important in teacher growth by over 1000 experienced teachers and 250 administrators during a recent survey. The following practices and school conditions were evaluated as significant factors in promoting teacher growth. They have been sorted into three very rough categories for our present purposes.²

Conditions relating to the teacher's individual freedom:

1. There is a democratic atmosphere extending throughout the total school situation.
2. New teachers are not hindered by tradition or by a strict supervisor.
3. There are school standards, but the teacher and the teaching are not standardized.
4. The opportunity for freedom of expression creates the proper atmosphere for the young teacher. It is probably the best thing in the program.

Conditions relating to co-operative undertakings:

1. Planning is done in departmental meetings to size up the whole picture and to integrate the curriculum.
2. Personnel work as done by the advisor system provides a teacher with knowledge of the child which is often invaluable in doing the best possible work with the individual student.
3. There is an open house night when parents may consult teachers concerning their children's subjects and progress.
4. Workshops are held in various subject matter and problem areas. Teachers determine and define their own problems in these workshops.

² Adapted from N. D. Cory. Incentives used in motivating professional growth of teachers. *N. Central Assoc. Quart.*, 1953, 27, 387-409. With permission of publisher.



What opportunities does the school offer for teachers to get acquainted with their pupils' parents? (Baltimore Public Schools.)

5. Groups of teachers with similar interests, such as subjects taught, meet at regular intervals throughout the school year.
6. Each new teacher is placed under the direct supervision of an experienced teacher who will aid, direct, and counsel the new teacher on problems of the school.
7. Guidance work is correlated with classroom work and cumulative records of pupils are made available to the teachers.
8. Professional "Know How" techniques are spread around among the teachers through a publication containing some of the better practices going on within the school.

Conditions relating to administrative attitudes and practices:

1. Teachers' meetings are planned jointly by the administration and the staff.
2. There is administrative co-operation in obtaining necessary materials, teaching aids, and supplies.
3. The greatest incentive is the example set for teachers by the administration. The administrative officers are accessible and willing to help and advise teachers who bring problems to them.
4. The head of the department meets with young and old teachers to solve problems of teacher-student relationships. Much informal counseling for teachers and students alike occurs in the process.

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5. The administrator is constantly organizing conferences, workshops, and curriculum groups. He carries the teachers along with him in his enthusiasm for improvement.
6. The administration shows personal interest in any project which a teacher wishes to undertake. Good work is commended often and openly.
7. There is continuous but gradual modification of procedures by the principal as the result of teacher evaluation and experience.
8. Teachers' meetings are held according to a schedule and at regular intervals.
9. Teachers are supported by the administration in student, parent, teacher difficulties.

It is easy to deduce from the foregoing that though the average teacher needs to feel that her work is part of a larger co-operative endeavor yet she should know that she is free to try new methods and that she will be understood when she makes mistakes. She likes to have her efforts appreciated and to be provided means for doing an increasingly better job of educating her pupils.

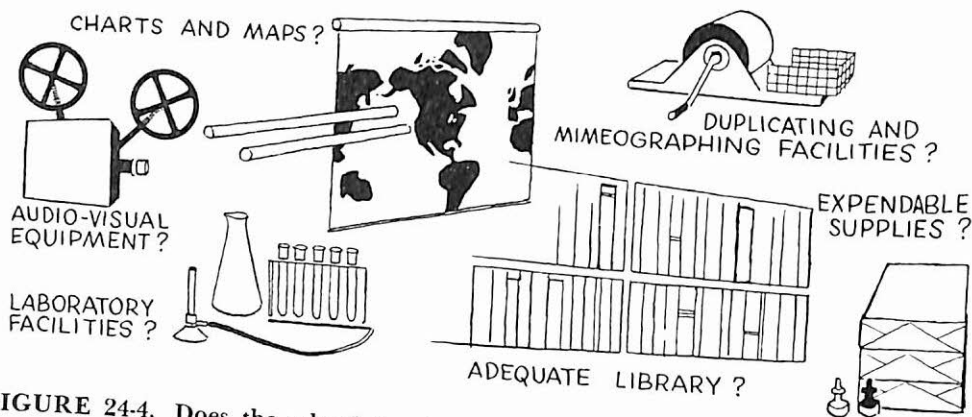


FIGURE 24-4. Does the school furnish its teachers with the equipment and supplies they need for effective instruction?

How do the pupils regard the school?

The teacher is associated with a large population of boys and girls of all ages. Although she has more sustained and intimate interactions with the youth in her own classes, still in a general sense all of the boys and girls in the school system are important to her personal happiness and feelings of accomplishment. Their



Do classroom teachers have a voice in extending and modifying school policies?

problems become her problems and their strivings become meaningful and real even if seen only through the eyes of her colleagues. The earnest teacher usually attempts to influence the growth and learning of all the boys and girls in her surroundings in ways that are consistent with her particular set of educational values.

If the goals and aspirations of the majority of youth in the school system are very different from those the teacher would wish for them, then the teacher can become unhappy and dissatisfied with her work. As an example, consider the following case of a young man just graduated from an eastern university who came to a small village near the northeastern woodlands.

Mr. Ronald M. grew up in a home where the humanities and the arts were considered so essential as to seem almost the only important goals of living. Both he and his parents took it for granted that when he grew up he would enter the university and prepare for a teaching career, for this was a family tradition. During his early youth his recreational interests were sedentary like "good" books, music, paintings, and the theater. He accepted his first position in this particular village because he hoped to bring

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a love of literature to these people so far removed from the influences of a large cultural center. He found that the youth of his school were little interested in the educational goals he deemed most important. As a matter of fact he found they preferred to read materials while in high school that he considered below standard even for the early elementary grades. Rather than embarking on a long program of educational influence as might have been practiced by a less rigid and more mature person he resorted to "preaching" about the evils of trash reading and the glories of the classics. His students resented this treatment, started to call him Mr. Shakespeare, and laughed at him in derision. This ridicule of himself and the values by which he lived completely demoralized Mr. M., who resigned his position in midyear.

There was nothing wrong with Mr. M. or his educational values. They were simply misfits in this particular village. He would have been happier and more effective as a teacher in a community where the youth had grown up in a culture similar to his own. In this instance a dedicated and sincere teacher failed in his first position because he had not objectively appraised his own goals in relation to the existing cultural needs of the young people he hoped to influence.

In view of the extreme importance of this matter the beginning teacher should try to find out how a representative group of her prospective pupils regard their school. Is going to school just a necessary evil that they must endure until they have social or legal freedom to quit? Is school merely vocational training by which they hope to secure positions as clerks, typists, mechanics, or other skilled craftsmen? Or is it regarded as "prep" for later collegiate work? Or, is it more probably, a mixture of these that remains fairly stable over the years?

How can the prospective teacher obtain such information? Answers to some of these questions will be a matter of school history. It should be possible to find out what percentage of the boys and girls drop out of school at the legally permitted age, what proportion of the high school graduates go on to college or university work, what proportion of the youth remain in the community and go into skilled and semiskilled occupations,

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and so on. The prospective teacher should also be able to discover from school records such things as the most popular types of extracurricular activities and the proportion of the boys and girls who participate in them. Records of absence and tardiness may also serve as a barometer of the school's effectiveness. A talk with the guidance counselor and the school psychologist, if available, can also be of aid in discovering the number and kinds of problems most characteristic of the school. Observation in a few classrooms and talking with some students in the corridors or on the playground should round out the picture.

Although the foregoing suggestions may sound impractical and formidable, some attention to student opinion and attitudes may save the beginning teacher much frustration and grief during her first year of experience. The accomplished teacher does not need to be counseled on such matters, for she knows the importance of being in a community where teachers and pupils see alike as to the basic goals of education.

The teacher adjusts to the community

Whatever the teacher's own personal evaluation of what is proper and good for a school and community, the reality is that she is employed to do the things judged most important by the parents of her students. Should she fail to carry out her duties as perceived by the majority of adults in the community, her services will probably be terminated. The wise and provident teacher will seek to know what it is that parents particularly expect of the school, since it is with them that her eventual success in the community will be defined and rewarded. Although a wise and patient teacher can make some progress toward "lifting the sights" of parents and find a way of modifying unrealistic or distorted parental notions of what a school is for, such things can only be accomplished gradually and over the years after she has gained the confidence and respect of thoughtful citizens. The average parent in our society views the school with a variety of ambivalent feelings, a mixture of trust and distrust, understanding and suspicion, all derivatives of their own experiences with school. Although in a few communities the parents may employ a school staff and forget

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the matter, this is becoming a rare occurrence. Parents today have very definite expectations about the proper functions of the school personnel.

No successful teacher has ever neglected the community's idea of what it needs and expects of its schools in favor of some unrealistic and evangelical program of reform. On the other hand, every teacher worthy of a noble calling has had a recognizable influence for the better on the affairs of her chosen community.

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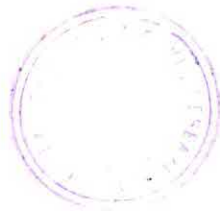
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